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ABSTRACT

This manual suggests ways to informalize and individualize the classroom through a transitional approach. It is organized by subject matter and in the order in which the classrooms may be changed from traditional to individualized. Trust is the basic premise on which the informalized classroom operates, and an effort is made to show how to develop a trust relationship between the teacher and students, and among the students themselves. One section of the manual deals with how the process of informalizing and individualizing the classroom begins, touching on organization, scheduling, log and record keeping, and evaluation. Examples are included. The problem of the physical structure of the room is next covered, with ideas on how to rearrange rooms to make the area more conducive to the more informalized teaching approach. Ways to individualize various subjects (reading, math, language arts, science, social studies, and activity period) are described, with examples and learning materials included. A description of a typical day in an informalized classroom concludes the document. (JCW)

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MULTIPLE CHOICE

a handbook for informalizing the classroom

ESTHER KATTEF • JANE MANZELLI

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PREFACE

It is our hope that those who wish to individualize and informalize their classrooms will be able to use our system as a model from which to draw ideas. Our intention is to give an example of an entire program that can be implemented in a classroom, not just to give disjointed examples of fun things to do. It is directed toward the experienced teacher as well as the beginning teacher. We try to minimize theory and emphasize specific ways of implementing various changes.

We have progressed since the writing of this book, and are continuing to grow and learn. Much of what we have written could now be rewritten and added to, but this is how we began, struggled and developed. These beginnings are important to us. We hope others benefit from them as we have, and as we continue to move on.

There are many people who contributed to the writing of this book, and we would like to give special acknowledgement to the following:

To Elliot Tocci, our principal at the Phillips School in Watertown, Massachusetts, who is now working in New York. He encouraged us to pursue our philosophy and methods in the face of pessimism and many obstacles. He supported our efforts throughout, and was our most constructive critic. We will miss his forward thinking and exuberance.

To Dr. Henry Olds for his helpful comments and suggestions after many readings of drafts of the book, and for his belief in the system we were trying to build.

To our husbands, who are also educators, for their continuous support and helpful suggestions throughout the writing of the book.

To Dr. John R. Sullivan, Jr. at NESDEC for his interest in the book and his enthusiasm in sharing our ideas with other educators.

To Yvonne Ahern at NESDEC for her production and editing work, and to Cheryl Chernack for her art work.

Most of all, we thank our students and their parents who helped us to grow along with them. Their progress and enthusiasm gave us the impetus to write this book. They were our most constant critics, and the best promise we have of more change in the future.

Esther Kattef
Brookline Public Schools

Jane Manzelli
Watertown Public Schools

FOREWORD

In the fall of 1973, the New England School Development Council invited "authors without publishers" to submit manuscripts for our consideration and possible publication. In response to our invitation and through the courtesy of the school systems of Brookline and Watertown, Massachusetts, Esther Kattef and Jane Manzelli submitted *MULTIPLE CHOICE, A Handbook for Informalizing the Classroom*, and we are pleased to publish it. In so doing, it is our hope that it will have a positive impact on the improvement of instruction in schools.

The field is replete with literature dealing with the theories and the concepts on the individualization of instruction. There is, however, a noticeable dearth of material which addresses the practical but necessary aspects of the topic. It is our feeling that in *MULTIPLE CHOICE* the authors have succeeded in putting together a series of practical suggestions which will go a long way in helping educators *toward* individualization of instruction or the informalization of the classroom.

If the staff of any school desires to pursue some of the ideas contained herein through a workshop or a series of workshops, be assured that NESDEC is committed to serve as a facilitator to that end.

John R. Sullivan, Jr.
Executive Secretary

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INTRODUCTION

We are teachers, not scholars, not super-idealistic educators, not impractical theorists. We want to help the average teacher make his or her classroom exciting. We want to bridge the gap between practicality and idealism. This book is an attempt to answer the teacher's specific questions and concerns, such as:

> "How do you go from reading groups to individualized reading?"
>
> "How do you move from group math lessons that are teacher directed to students working at their own pace, independently?"
>
> "How do you move from sterile composition to creative expression?"
>
> "How do you begin to encourage students to work independently, make decisions and be responsible?"

And, most of all,

> "How do you get kids to become involved in their learning and to enjoy school?"

Have kids asked you lately,

> "Can I have another fraction sheet?"
>
> "Can I write some extra poems for the class newspaper?"
>
> "Will you give me a conference on my book if I finish it during lunch?"
>
> "I still don't get prime numbers. Will you give me some help?"
>
> "Jimmy is bothering our group again. Can we have a group meeting to talk about it?"
>
> "Is it O.K. if I read another book besides this one outside of school?"

We want to offer some practical and specific suggestions based on our experiences in changing our rooms from "Eh?" to "Ah!", from just contentment to real enjoyment and interest.

First, we would like to make a comparison between some basic premises of an individualized classroom and a traditional room.

	Individualized	Traditional
1.	Each student progresses at his own rate. Detailed records on academic and social growth are kept to keep track of his progress.	Usually students progress as a group. (All work together on the same thing at the same time.) Grades are used to assess global ability.

2.	Students make choices among given alternatives (within a defined structure).	Teacher offers few, if any, alternatives.
3.	The child is responsible for planning his time so he completes most of his work within the school day.	The teacher determines what is to be done and when.
4.	Students gain independence, responsibility and self-confidence.	Students are urged to conform and be obedient.
5.	The student is evaluated in terms of his own ability and progress.	Students are evaluated by comparison to peers.
6.	The atmosphere is more informal where both the students and teachers are relaxed.	Formal atmosphere which encourages some students to try and beat "the system."
7.	Teachers are guides, catalysts and resource people.	The teacher is the dispenser of knowledge and information.
8.	The basis of the program is a trust among students and between students and teachers.	The program functions more on the basis of extrinsic factors such as grades and punishments.

One of the reasons the more informal classroom has been misunderstood is that many teachers have not fully realized their new role, the need for a structure, and the tremendous amount of work involved in modifying the existing materials and making and bringing in "tons" of new materials. Many teachers jump on the bandwagon of freer education without regard to a transitional approach. As a result, the teachers are unsure of their role and the students unaware of theirs. These teachers do not equip the classroom for the change in program. The objectives and philosophy of the teacher and the resulting changes in attitudes, roles, and the mechanics of the room, are the important things. Thus, a new structure is formed whereby the "rules of the game are played." It goes deeper than a casual and shallow external change in environment.

This book is organized by subject matter and in the order in which we changed our rooms from fairly traditional to highly individualized. We would like to begin with what we feel is the most important aspect of a more informal and individualized classroom. Trust is the basic premise on which our classrooms operate. Though it is very difficult to attain and define, we will attempt to make clear how we built a trust relationship.

I. TRUST

Before individualizing our classrooms, we had to decide how much we were willing to trust our students and how we were going to build such a relationship. We decided to "wipe the slate clean" as far as what we had heard about the students' previous actions in other classrooms. We let them know that in our rooms they were starting out anew. In this way, we felt we gave the students added responsibility; and they wanted to live up to this new expectation of themselves. It was like giving someone a second chance.

It is hard to define trust. It is a total process that is constantly developing. We can only relate the instances which we feel led up to the establishment of a good rapport with our students. For us, perhaps, the class meetings were the most important part of developing this process. We used the meetings as an opportunity to carry on give-and-take discussions. By talking to our students on an equal level and not in an I-Thou manner, we tried to have them develop a sense of self-worth. They felt that they had a real impact as individuals, on the group as a whole.

In Esther's room, a situation occurred in which the students were forced to deal with each other's feelings. In this fifth grade class, the students held an election to appoint a person who would select and rotate people weekly for class duties. The class nominated six people. They all campaigned vigorously and two were selected from a primary. It so happened that one candidate was a boy and the other was a girl. Since there were fourteen boys in the class and only seven girls, the boy felt he obviously had it made. After another week of campaigning, the students held the final election and the girl won by one vote. Needless to say, the boy was distraught. He and some of his friends tried to determine which boys had voted for the girl. After their names were discovered, the boys who had voted for the girl were called "sissies" and "Misses" and were ostracized from playing ball with the other boys. The girl was also being hurt by the actions of the boys. The boys who had voted for the girl couldn't cope with the name-calling and ostracism and soon six people were in tears. This called for a class meeting. It is difficult to explain the emotions and courage the students displayed at that meeting, but it was a moment of triumph in trust. At first, there was total silence and a feeling that someone had done something bad. Esther broke the silence by simply stating that some people were feeling rather badly about what was happening to them. Again there was complete silence. Then one boy who had been called a sissy stood up, and choking back the tears, blurted in one quick sentence, "People have different opinions and I voted for Ellen because I thought she was the right one for the job, and you can't hate me for thinking differently from you; and if I had to do it all over again, I would do the same thing." With that, he quickly ran out of the room because he was going to burst into tears. Then, everyone started talking at the same time. The loser of the election made it known that the entire affair was his doing and he felt truly sorry for it. He and others apologized to the group and later to the boy who had left. The discussion continued with more talk about differences among people and their ideas. The boys in the class who had voted for the boy candidate just assumed that all the boys in the class should

have stuck together and voted for him. During the discussion they began to see how unfair that assumption was. Everyone in the class felt that what they said made a difference.

This, then, was a sign of trust. It seems to have been very much tied to the picture an individual had of himself within the group. The boy in tears had felt his self-worth and that he could say what he felt was on his mind. This, of course, was not our first meeting. We had been having them regularly to share thoughts and give direction for the day. We had built up a pattern whereby the students felt confident and comfortable enough to take part in discussions (both academic and social). Everyone did not always talk, but they were aware that they could if they had something to say. Esther was fortunate enough to have had this crisis situation in which the students felt that they could express themselves freely.

Another thing we did that helped build a good relationship with our students was to talk to them about why certain things were being done. For instance, at the beginning of school, Jane gave diagnostic tests daily. Rather than just give the tests, like it or not, she explained that she was giving them so that she could see where each person needed help so that they could work on it during the year. The class felt at ease and even saw the necessity of taking the tests. They didn't feel they were being tested, imposed upon, or just being given a lot of work. They had been spoken to plainly and in an adult manner and reacted accordingly.

We also gave a lot of encouragement and support when it was needed. We tried to show that we genuinely cared about each student. We would sometimes go over to a student who was dilly-dallying and ask him if anything was wrong with which we could help. We could also have yelled and told him to get busy fast (and there are times for this). But there are times when you know that a student can use some attention; that somehow he doesn't quite believe you really care or want to help. For example, Danny had had a bad year prior to coming to Jane's room. He had earned a reputation of sorts. Now he was faced with Jane treating him rather fairly; and although he couldn't see why, he began to reach out a bit. Finally, one day he went up to Jane and said, "I don't get any of these questions. Can you help me?" He obviously didn't think she was going to yell at him for not listening or he might not have asked. He had reached a point where he trusted her enough to ask for help. If there were times when Danny was truly irresponsible, Jane told him so. But Danny would know this, and he knew that Jane confronting him with it was fair, too! We were consistent in our dealings with students and tried to be fair. You can't argue with that—the students knew it.

So this is trust to us. It's the building of self-worth in the student. It's caring. It's equality. It's fairness. It's feeling really comfortable.

But we've talked about trust from the students' point of view. How do teachers trust their students? Only if we trust students, will we feel comfortable in giving them alternatives and the opportunity to make decisions on their own. How do we know that a student will choose an appropriate book if allowed to; or go to the library to do work when we simply allow him to sign out? How do you know he'll make the choices we want him to? It's simple. We don't. Frankly, when we first put a sign-out system on the board for the library and lavatory, we were quite skeptical. We really had little hope of this system working correctly. But it was all part of an overall atmosphere we wanted to create, so we took a tranquilizer and let it happen. The fact that we gave the students this decision to make, coupled with the fair treatment we were giving our students already, gave us the upper edge. There were students who misused the privilege once or twice, but confronting them was also fair. And we let a student know how we felt when he took advantage of the system. We let him know that he had let us

down and shown us that he couldn't make some decisions yet. We did this in a quiet discussion between the student and teacher. Depending on the circumstances, we would ask him what he thought we should do or simply take the privilege away for awhile. Again, there could be little argument. We had been fair.

We wouldn't want to give teachers the idea that trust is easy to build or that things always go smoothly once a rapport has been established. There are always tests on people in any relationship, and there are many such tests in the classroom. Some are easy to see through and some are a real disappointment, like George's story.

George was in Esther's fifth grade class. He was the kind of kid that had an adult sense of humor and was a pleasure to have around. He seemed to understand everything. He'd understand people's problems; he'd understand teachers' dilemmas—like calling teachers Miss or Mrs., or Mr. or Ms., instead of using their first names. "After all, teachers call us by our first name, but I know they think kids will take advantage of them or get too buddy-buddy or something." This was George. He was very independent and responsible. Because of George's personality, independence and responsibility (which he had displayed many times over), Esther didn't worry much about him. She knew he could work with very little help or coaxing.

It was near the end of the year and George was working on a division schedule in math. (These schedules will be explained more clearly later.) He was supposed to do some pages every day so that he could finish the division and go on to fractions. Esther checked George's other work twice a week, and although he never had his math at school (he liked to do it at home), he always told her which pages he had done. She would remind him to bring in his notebook so he could correct it to make sure he was doing the problems correctly. In class, he showed that he understood the problems we were doing so it was entirely believable that George was moving right along. Since Esther didn't worry about him, she would forget to ask him if he had brought in his math.

This went on for about two weeks, until Esther realized she had really neglected to follow up on George. When she asked him for his notebook and he didn't have it, she sent him home for it.

When George hadn't returned an hour after he had left, Esther called his home. He answered the phone telling her that he had stepped on glass and then began to cry. Esther told him to take care of himself and that she hoped to see him back soon. That day she thought about George and the math and the glass story and realized why he had cried. Esther also knew that she had perhaps trusted George blindly and given him a tremendous amount of responsibility. She knew George hadn't stepped on glass and that he hadn't been doing his math all along. This was much her fault as his.

When he came in the next day, he came right to Esther and told her, "I haven't been doing my math, but I did eight pages yesterday and will finish the others today." They sat down and worked out a plan whereby he would correct all the math he had just done and do five pages after school, which he would also correct. He would then practice any difficulties and do the rest at home that night. However, they also talked about what had happened and why. Esther had had such high expectations of George that he just couldn't tell her that he hadn't done the math when she checked his work, so he made up a story. He had no excuse for not having done it in the first place. He had just gotten farther and farther behind until it was futile to do any of it. But it was more than letting her down as a teacher that bothered George

(he couldn't even look at her throughout the conversation); it was the whole trust thing. He had believed in it and in Esther and he knew he had disappointed her as a person. Esther knew she was also to blame for she had forgotten that George was also a person and, therefore, fallible. She had put too much of a burden upon him. Blind trust is dangerous even with the brightest of students.

Now George is in Jane's room and doing very well. He occasionally calls Esther to talk and to inform her of his understanding of division and fractions, seeking reassurance from her of his ability. They never mention those two weeks of no math. They had both learned a lot and knew it had been a good experience for them.

So, as teachers we had to take some chances. We had to give students the opportunity to choose and to decide. We had to build a trusting relationship, always remembering that students are people with limits beyond which they cannot be pushed.

New Roles

This new relationship between us and our students was also the beginning of a change in roles. It was difficult for us to alter our roles from that of the wiser person who possesses all skills and knowledge to a flexible, resourceful person who guides and stimulates the student through the learning process. We realized that we didn't have to be afraid to say, "I don't know," when a student asked us something. We could decide, together, where to look for the answer. Here we were in the position of also learning and the student saw us as more real, more fallible, more human.

This is not to say that we, as teachers, did not know anything or did not have answers. On the contrary, we had a wide range of knowledge and interests, but the manner in which this knowledge was shared with the student changed. Rather than dishing out answers and information, we tried to direct students where to find the information and, at the same time, provide interesting and engrossing topics for research. At the opportune time, we did in-depth research on topics and brought in material and information to assist the student in the quest for knowledge and answers. We respected the students' abilities to search for answers and information, but at the same time, gave them a good background and made them aware of what was around. We felt that very little learning could occur in a classroom where the teacher does not take the responsibility for providing this basic structure and direction within which the child can work.

An example of a room where this responsibility was refused was when a teacher worked at changing the physical environment to make the room more informal. But she stopped there. She then waited for her students to come up with topics to study; questions to ask and answer; fascinating projects to do. In essence, she placed the entire responsibility of motivation and stimulation upon the students and expected the classroom to run by itself.

We felt it was up to us, as teachers, to decide how much we could handle because of all the adjustments that we had to make. No one could make this decision for us. Whatever changes we did make, we made sure of our objectives, for we knew we would be constantly challenged by superintendents, principals, parents and students. We had to be aware of what we were striving for and why. Then, if someone walked into our room and said, "This is chaos," we would know they were wrong. We could ask him to stay, get involved, and judge for himself.

We tried to get parents involved by inviting them to spend a day with us. We say a day and not ten minutes because we feel visitors must get involved in the room to truly understand what is going on. A visitor can see whatever he wants to see in ten minutes, but if he stays he can't ignore students bombarding him with questions on a math problem they're working on; or being asked by a student to listen to him read; or observing at length one student as he concentrates on performing a science experiment, figuring out the countries on a map, or reading quietly. He cannot deny the involvement he sees. We worked hard to create our program; the students worked hard within it. Everyone should know that.

We often ask parents to be guest lecturers. We may have been making some structure for the room, like a bulletin board or shelves, and invited a parent who was skilled in carpentry to help and discuss different aspects of construction. If we were involved in photography, we asked someone who had expertise in this area. It was important to use outside resources; there was a wealth of information there. Parents were very helpful, also, because they could take groups for extracurricular activities (cooking, weaving, art) or help out with anything from academics and schedule checking to creative activities. Using parents, students, and other visitors was all part of our classrooms. Students weren't surprised by anyone who came into the room. They even bumped into the principal and asked him to join them in a game of Dots. The students learned to use people who came to observe them or to visit. Their hope was that one of these visitors would help them figure out No. 3 Across in the crossword puzzle that they had been working on all week.

II. HOW DO YOU BEGIN?

Organization and Scheduling

There are many ways to begin to individualize and informalize the classroom. One way is to free one hour per day for students to select from among predetermined alternatives. Another way is to reorganize one subject at a time, i.e., reading—have students read from books of their choice individually and discuss each completed book with the teacher. One can also start by a reorganization of space, like making a science corner where students can go to perform and record individual experiments. If there are enough individualized materials in the room already, a contract of some kind can be used to start students working independently at their own pace right away. This takes a lot of planning, record keeping and work to keep materials in stock so as to have enough for students to continue to work at their own pace. This means continually making and bringing in individual sheets, activity cards, games and books for all the students.

The following are examples of the ways in which we started to individualize a couple of different grades in different schools. The methods we used were very different due to a variance in the ability and needs of our students. Many areas mentioned, such as scheduling, activity cards, conferences, etc., will be explained in detail later in the book.

The school in which Esther first taught was one which had a low socio-economic background and which was extremely traditional. The parents in this school district were of many different ethnic components. They were afraid of the school and felt that whatever the teachers did was right. There was little, if any, involvement on their part.

Jane's school ranged from middle to high-middle socio-economic background. The parent group was very interested in the school and were constantly giving their ideas and support on issue-oriented problems.

Esther recalls her experience in a fourth grade classroom in this way. Since most of the books were outdated (the social studies book said there were still 48 states in the U.S.) or basal readers, and there were no manipulative materials, I began rather conservatively to get a feel for the class. First, I gave a reading diagnostic test to discern the range of abilities in this area. The range went from second to fourth grade with most of the students reading at a third grade level. Most of the students had already used the third grade level basal the year before, so I obtained a few different ones at that level and decided to use the basals mainly for oral practice and phonics drill. I broke up the class into four groups, three of which needed a lot of practice. There were two students in the fourth group who read very well at the fourth grade level, and I let them read a book of their choice. I would meet with them twice a week to work on comprehension and drill phonics. Sometimes we would read and discuss a story together. I met with the other three groups daily. In each group students read aloud from a story they

chose together and I gave them work on comprehension and phonics to do at their seats and at the board.

After four weeks, I allowed everyone to read a book of their own choice. Since we had no paperbacks in the room, we went to the library and each person chose an appropriate book. I gave them a minimum of pages to read each day (five to ten, depending on the student), and they were to leave the book on my desk when they had finished it and sign up on the board for a conference. I would then quickly skim the book and call the student up for a conference. (The conference will be explained in detail later.) I still met with certain students for oral reading practice and phonics work. The new independence the class had acquired thrilled them.

In math, I also gave group lessons and taught lessons daily. I taught grammar to the whole class three times a week and did spelling the way it has always been done. (Later, in spelling I made up about 30 different individual cards with words on them and exercises to do. Each student had a partner and chose a card weekly to work on. They gave each other the tests and recorded the results. Many of the words were much more relevant to their daily work than the words in the spelling book.)

With the change in reading, there came another change. I began building up a resource of individual sheets and cards in all the subject areas. I made up sheets on various concepts in math (addition, place value, sets, etc.). These I placed in a Math Box. I also tore some pages out of old math books and workbooks and put them on cards in the Math Box. I did the same in grammar, phonics and social studies. (I made copies of maps and questions to go along.) When I had made about 25 cards and sheets in each area, I began using what I called the "Map" so as to have the students begin to initiate more of their own work, move at their own pace, and be more independent. The work assigned on it had been covered in lessons on Monday and Tuesday and it was given to the class on Wednesday. At first, all requirements were the same for everyone.

After two weeks on this "map," it was used two to three days a week, instead of just once, and students began to go beyond the minimum requirements listed, i.e., a story, more math, or more pages in reading. Lessons were also put into the "map," i.e., *"At 10:00 there will be a math lesson on borrowing with the elf."* The students who needed this help would attend. I would be aware of each child's difficulties by checking their daily work, so I could check if all those who needed more help in borrowing were present. At other times, lessons were given to the entire class to teach new concepts.

In this way, I began to let the kids work at their own pace—individualizing had begun.

The reaction on the students' part was one of excitement. Having been slower students all through school, they were delighted to be able to work somewhat on their own and to make some decisions as to how much to do. Their confidence in themselves skyrocketed and their work and attitude towards school improved. Even parents were pleased and amazed at their children's new enthusiasm in school and in the projects they were doing. They related incidents about how their children became much more independent at home. Jean no longer wanted an older brother or sister to stay with her all the time when her parents were not at home; she could now get up in the morning herself and get her own breakfast.

The work load did not lessen with the start of the map. It allowed pupils to work at their own pace and to at least complete a minimum requirement. I constantly kept track of individual progress through regular meetings with individual students, and advised and helped

them when necessary. This progress check will be explained in detail later. Some pupils needed constant attention to get through their work. When I felt that some students were not doing their best or as much as they could, I also spoke to them. I would meet with these students many times during the day to give assignments myself and correct their work if they had misused that privilege. I still gave some tests and remedial math, reading and phonics lessons. So the students could have more choice, I continuously made individual sheets and cards in all the subject areas until I had built up a wealth of individualized materials.

There were many papers from each student to check daily and it was important to see the student about errors or comments daily.

Following is an example of the "Map."

Note: *"See the elf man" means see the teacher to show her your work and ask any questions.*

"You are going on a journey through a mysterious forest. If you follow the directions and work hard, you will learn the way out and be on your own way home by 2:05. Good Luck!"

MAP

START

Go to the math tree and do Pg. 57, 1 & 2 and a sheet on borrowing			
Now visit the spelling bush and do Pg. 19 A & B			
Go around the corner to see the elf (teacher) with your work	*If you have the O.K., you may rest at the reading fountain and read 5 pages in your book*	*Now you may pick up a grammar sheet at the language pond*	*Visit the elf with your work for the O.K. and to find out how to get out of the forest.* *END*

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After three weeks on the "map," the class moved into a schedule that they used daily. Some of the ideas listed within the schedule will be explained in detail later and examples will be given.

SUBJECTS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Reading	*Name of Book*				
5-10 pgs/day	*p__ to p__*	*p__ to p__*	*p__ to p__*	*p__ to p__*	*p__ to p__*
Math	P. 63	P. 64	P. 66	P. 68	P. 69
1-2 pgs/day	1-8	1-10 Pg. 65 1-2	1-6 P. 67 1-5	1-12	1-10
Language	Read P. 36-37	P. 38 - Do A	Sheets	Sheet 12	
Verbs	Do P. 37 A+B	P. 39 - Do B	10 & 11	Do P. 40A	Test
Science	Experiment	Log Sheet	Experiment	Log Sheet	
2 experiments	3	on Exp. 3	4	on Exp. 4	
Creative Writing Picture & Jokes	Start to Draw a Picture	Work on Jokes	Continue with Book	Put Together with a Cover	Share with Class
Spelling	P. 19 A+B	C+D	Pretest with Partner	Crossword Puzzle	Test
Unit 4					
Specialists	Art	Gym	Music	Library	Reading

This is a more advanced schedule that I used later. I started with reading, math, language, spelling and science twice a week and one choice (games, SRA, and extra work). Again, the requirements I have on the schedule are the minimum and students can do more. Some students did all their spelling in two days and used the time for extra math or to work on things with which they had trouble. The schedule as shown could be completed in approximately two to two and one-half hours. The rest of the time is for the student to do in-depth study in a particular subject or on a project (weaving, construction, writing stories and books), or the student may do more of the subject listed, i.e., do more science experiments.

The schedule allowed me to work more individually with the students. I gave lessons when necessary and worked on specific problems and projects with the students the rest of the time.

The subject areas were chosen by me and basically stayed the same, but the requirements changed. The areas chosen were based on the demands of the school curriculum, students' interests and abilities, and my own creativity. In following a curriculum, it was important not to expect every student to complete an entire unit. In doing so, I might end up pushing material on a student and not being concerned with his individual learning rate. Also, the students may lose their motivation for doing the work. If there wasn't a curriculum to follow, I used interesting units that children could do based on my knowledge of kids' interests at this age.

This is only an example of how I began with this particular class, in this school, in 1971. Since then I have keyed in more on individual students needs. This will be explained later.

In the same year, in Jane's sixth grade class of 28 students of middle, upper-middle class parents, individualized instruction started with a change in the reading program. Jane's account follows: "I brought in a rug to the class. It was the first rug in the school and the class was excited. The class decided to use the rug to sit on while reading. They formed a committee to decide where to put it. They met with me after school and made a reading area by moving the piano six feet out from the wall. The back of the piano became a display for reading posters and charts."

As a result of this simple change, certain problems were created. Everyone wanted to be in the reading corner at the same time. Some common questions were: "who, when and how long can someone stay in the corner?" Soon the class devised a sign-up system for the corner during reading period, and a first-come, first-served system during any free period. As a result, there was greater mobility in the classroom and I soon realized that kids could move around, talk to each other and still be responsible.

Other areas of the curriculum were individualized as soon as I could create materials. Spelling became "Terms" in which students worked in pairs, did exercises and tested each other. Math changed from large group lessons to individualized cards and small group lessons.

I obtained two interesting, colorful, challenging math texts for my top students and cut them up and put them on oaktag. Soon the top group was proceeding quickly through these materials. They were able to help other students, too! I met with the low group daily to explain a concept and then let them complete the work on their own. I would check the middle group's work every other day and be available during math time to anyone who needed help.

It became apparent that it was necessary to keep track of individual student growth and, at the same time, allow students to organize their work and time. I started to use a modified schedule for a part of each day. One of the first looked like this:

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	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Reading P. _ to P. _ Pilot Library - 2					
Mathematics Book Sheet Card Lesson Other					
Language Newspaper					
Spelling Terms					
Science Dissection					Report Due
Social Studies					
Specialists	Music	Industrial Arts	Art		Gym
Additional Activities	Glee Club	Choice	Choice	Reading Clinic	Choice

MADE OUT BY STUDENT

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Reading P. 105 to P. 120 Pilot Library	Pilot	P. 120 to P. 135 Library	P. 135 to P. 150 No. 16 + 17	P. 150 to P. 165	Finish Conf.
Mathematics Book Sheet Card Lesson Other	Ginn. P. 163	3 Sheets	Ginn. P. 170	A. W. P. 153	Test
Language Newspaper	Story	Poem	Story	Story	Poem
Spelling Terms	Def.	Sent.	Story Words 5 time each	Test	Test
Science Dissection	Sheet on frog	Sheet on frog	Report	Dissection	Report Due
Social Studies	Economics Reading	Economics Quiz		Economics Discussion	
Specialists	Music	Industrial Arts	Art		Gym
Additional Activities	Glee Club	Extra Reading	Clarinet	Reading Clinic	Candle Holder

This schedule was usually completed in the morning. Students worked independently on math, reading, terms and language.

Language was generally taught to the whole class when it was necessary to review a skill or teach a new one, such as paragraphing. Language workbooks were cut up and placed on oaktag. Skill sheets were run off and kept in mailbox cubbies made out of shoeboxes. I developed creative writing cards, picture cards, and thought cards which were later supplemented by the students. These all served as a springboard for writing and discussion. In order to put language on the schedule, I spent long hours developing these cards. Just the simple tasks of cutting up workbooks, labeling topics, numbering the pages, and doing answer cards involved time. When I first began, I gathered together all I could find on capitalization, punctuation and abbreviations and put the information on cards. The topics were put on the schedules for the week. A class of 28 students had 20 cards to work from. Not everyone had to do the same card, and they did their work at different times during the morning. It worked out well and eventually, as all the grammar topics were put on cards, the collection built up to more than 100 cards.

As the months went by and I was able to create more materials, the entire day became individualized.

The next year we began in a similar way to that just explained. Esther was transferred to Jane's school during the summer. Esther taught fifth grade and Jane taught sixth. We both used a schedule, and with some students we used a contract. Samples of both the schedule and the contract appear on the following pages.

We started with a meeting with students in the morning to discuss our respective roles and the sort of responsibilities the students thought they could handle. We talked about the need for mutual trust and how hard we all would have to work to make the classroom a fun place to be. We discussed scheduling and independence and the responsibility that goes along with it. We decided that if students were not responsible in following a schedule, the privilege of planning their own time would be taken away from them. We would then assign work for the students to do. One student in Jane's room, an SLD (Specific Learning Disability) student, had to work closely with her to make out his schedule. He also had to be started on each new activity. Another student in Jane's room was caught copying math answers from the teachers' guide. He lost the privilege of correcting his own math for one month. He also made up that part of the schedule after school from which he copied the answers. In class, when he completed his math, he gave it to Jane to correct. Losing this privilege made him feel badly since everyone else in the room could correct their own. When he finally got the privilege back, he was appreciative and much more responsible.

Sign out privileges for the bathroom and library would also be taken away from those who abused it. One girl in the sixth grade lost sign-out privileges because she threw wet paper towels out the window in the bathroom. Afterwards, she had to ask permission to leave the room.

We placed a high premium on honesty and responsibility to have this kind of classroom and structure. The class felt privileged to have the teacher believe in them. They enjoyed the added responsibility of planning their time and directing some of their own learning. Most kids were protective of their schedule and the new independence that they had gained. They got upset with students who did not take it as seriously and who did not work as hard as they did. This peer group pressure was important to make the new system work. This is a departure from

Name Sam
Week of March 4

Subjects	Monday	Tuesday	Wednesday	Thursday	Friday
Reading 10-15 p/day	Name of P 171 to P 172	Book P 173 to P 188	The Gs host in the noonday sun conference.	P 3 to P 17	P 18 to P 33
1. Math Follow individual plans 1-2 p/day 2. division film loops	Book AW Mac P 123 P 64 NO. WRONG 00	sheet	Book Mac P ~~35~~ 36 NO 1/2	Ginn P 89 NO 0 Act. V 1 to 4 Period	Mac ABC P 88 P 42 NO 0 NO 0
Skill sheets (plurals + possessives)	sheet ✓	sheet ✓	Today we made up sentences.		
Cursive	f-l	Today I did the letters f-l	Today I did the letters f-l and words		Today I passed in the letters f-l pass in sheet
Science (Continue on microscopes)	Today we had a meeting	Today we used the Onions	Today I finished my onion sheet		today I passed in my science folder pass in folder
Social Studies (Baboon-study)		Today we did a sheet	Today we had a meeting		Today we had a meeting again
Choice	chess	chess	crypto		
Diary	1:45 ✓	1:45 ✓	1:45 ✓	1:45 ✓	1:45 ✓

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CONTRACT

(Give bottom half to student)

Agreement made this _____ *day of* _____ *A.D. 19* _____

between _____ *student and* _____ *teacher*

Duration of contract _____

The student agrees to complete said contract and the teacher agrees to guide, advise, discuss, direct and/or assist in any way needed to complete contract.

It is understood that all provisions of this agreement shall be binding on the student and the teacher.

In witness whereof, the said parties hereto set their hands the day and the year first above written.

_____

_____

- - - -

the usual manner in which students work against each other and the teacher. We recognized the different abilities and attitudes of the students and spent more time helping these kids adjust.

Again, we must emphasize the important role of the daily class meetings in the morning. They were essential in developing a sense of pride and unity within the class. As we stated before, through the mechanics of the meetings, the students learned how to participate in a "give-and-take" discussion and thus developed a sense of self-worth and trust in others. The individual student was aware that he had an impact on the class. We also tried to build a sense of togetherness and cohesiveness within the class by what was said within the meeting itself. We felt that this was important since the students worked individually for a good part of the day. For instance, in our meeting we might discuss the direction for the day in regards to the schedule. In a sense, we were getting them "Psyched" for it. We would discuss various activities to do and possible paths to follow. We also used the meetings to discuss gripes and problems and decisions that had to be made by the class (i.e., $60 was given to the sixth grade class and we had to decide how to use the money). Anyone could call a class meeting for something he felt was important. For example, the girls in Esther's room wanted a meeting because they were not included in the recess punchball games. They were used as a "show and tell" for the students to share anything they wanted to talk about or show. Current events and issues were also discussed. Meetings were usually one-half hour in length.

Through these meetings the students developed a sense of feeling for the other person. They realized that oftentimes people would unknowingly hurt others. This included hurting the teacher who also called meetings when she felt students were being treated unfairly, materials were being left out, jobs weren't being done, animals weren't being taken care of properly, the quality of work was not up to par, etc.

Meetings were often held midday to share interesting things students had done in the morning. Students learned to really listen and often got excited about things others were doing. This interest sparked later dialogue among the students. The students also became aware of a sense of purpose in their work. They felt that others cared about what they did and that what they did wasn't just work for the teacher.

Therefore, the meetings were an integral part of the program. In total, we had a meeting every morning, and perhaps one or two midday meetings per week to share classroom experiences. We also had meetings any other time when necessary to discuss problems, concerns and complaints. We made it a point to talk to our students often. This let them know we cared and other students cared. They knew they each made a difference and that it was indeed their classroom.

It was convenient for us to have a large block of time in the morning for working on schedules and giving lessons. It was possible for us to arrange our recess and lunch periods to fit our program. Our day went from fairly quiet to less quiet and our activities were in accordance with this plan. This was because some students liked to read or concentrate on math early in the day and wanted a quiet period.

We found it best to pass out a new schedule each Monday which differed in some way from the previous week. For instance, for creative writing, one week students could bring in pictures of man-made articles every day and write stories or poems about them. Another week, students could choose a theme such as a mystery and develop an involved story over a week's time. Sometimes we replaced science research and projects with more manipulative science ex-

periments. We sometimes replaced creative writing with public speaking. We occasionally dropped a subject for a while to do in-depth research on projects. Every now and then we added new activities and materials based on class interest. We tried to have several on-going independent projects to further develop a sense of cohesiveness within the class. These projects are discussed throughout the book in various subject areas. Also, adjustments were always made for individual students who worked slower or faster to help them along or to get them interested in some topics for research and experimentation.

The students filled out their schedules daily and could choose what subjects they wanted to do and when, but they had to complete the minimum requirements at school or at home. They had to account for their day by marking their work on their schedules. Not only was the schedule an organizational tool for us, it also provided the student with a basic structure to work from. By giving the students an opportunity to record their work, we also were giving them immediate reinforcement. Most students felt a real sense of accomplishment by filling out their schedule and felt very secure with it.

We checked the schedules at the end of each day. It was convenient to have each student make weekly a folder from construction paper to which he attached his schedule and inserted his work. This way his day's work was easily reviewed.

Checking schedules is a very important part of the program. It was difficult for us to check more than 10 to 12 schedules an hour. We divided the class into two groups, those whose work only had to be checked every two to three days and those whose work had to be reviewed daily. We checked the students that had gone for longer periods of time alone in the morning or during activity period. The others were checked at the end of each day. All the work was kept in the folder and the student was always present while his work was reviewed so that he could discuss problems and ask questions, and we could comment to him about his work and progress. As time passed, some students could work for an entire week without being reviewed and could go on contracts. Others always needed to be checked daily because they needed much more direction in planning their time and working independently. Some students even needed their schedules made out for them on some days. But even these students benefited from the few choices they did make in their day. Students felt more confident and independent when they were allowed to make decisions about when to do what.

There was a place on the board to sign out for the bathroom and library. There was a limit to the number of students out at one time. Even this privilege was a decision a student appreciated and learned to make.

There were many times in a day throughout the year when we saw improvements in our students' ability to initiate activity and work independently. This increase in independence and confidence also took place outside of school. Many parents were pleased with the improved attitude and performance of their children. One mother came in and told Esther how her daughter used to spend a good part of the morning dilly-dallying about which dress to wear to school. The mother would have to pick the dress out the night before so that the child could get to school on time. The mother was amazed at the girl's sudden change in behavior when she now laid out her own clothes *the night before*, or just got up in the morning and quickly put something on. She also noticed her daughter's increased independence and responsibility in home duties.

Individualizing a classroom is a total process and a kind of feeling. It is not easily measured numerically, but shows up in the atmosphere of the room and in the attitude of the students.

Log, Record Keeping, and Evaluation

Perhaps the most important part of making a room more informal is keeping track of everyone. This becomes quite a chore when everyone is working at a different level. For our program to work, we had to have a general idea of where our students were so that we could help them at the right time and discuss difficulties and interests with them. In Esther's room, there were two student teachers, and it was important to know what each was doing with the students so as not to work at cross purposes. To handle this important task, they developed a Log. The Log consisted of a loose-leaf folder with the names of all the students. There was also an alphabetical listing of students on a sheet of oak tag with the days of the week written across the top. This list was made out weekly and clipped to the front of the folder. Each time someone saw a student during the week, she checked the day and the name. In this way, we made sure that we saw each student during the week and did not miss anyone for any length of time. With some, it was not necessary to talk about their work, just talk with them and get a sense of what they were doing and how they were feeling. It was amazing how, at a glance at the record, we could see that we actually didn't speak with some kids for four days in a row. This could easily happen, especially when we were spending a lot of time with the slower students or the top ones. The average kids were often left to themselves, but a check of the Log would advise us of this fact. In the notebook itself we wrote anything important we did with a student or that needed follow-up. For instance, if Esther had worked with Lisa on fractions with pattern blocks, she would write this down along with any directions she had given her and her progress. In this way, Esther's student teachers could pick up on Lisa if she was not available. This record was also valuable and very helpful when reporting a student's progress on report cards. Also, we recorded any significant social problems or insights into any student's particular actions. Oftentimes a student who has had some difficulty at home or in school discloses the fact when talking to one of the teachers in the room. Esther would then have a better understanding of the student.

Of course, it was imperative that the Log be kept up and read often. Even when one of us was the only teacher in the room, it was a valuable tool for evaluating student progress and keeping track of interests and work.

Here is a sample page from the Log on John M:

9/18/72 *Slow to settle down. Has problems in planning time effectively. Contributes in Social Studies Class – knows a lot about laws.*

9/21/72 *Asks many questions. Needs constant reassurance that he is doing the correct thing.*

9/25/72 *Took Graphing test – 75. Went over test with John, errors in the written problems – understands concept.*

10/3/72 *John asked to move somewhere else – feels that he and Danny talk too much. I told him he could select another location in the room.*

10/10/72	*John has asked fewer questions and seems more confident in completing a task without checking if he is doing it right. Has been extremely conscientious about doing work. Takes home extra math nightly to get ahead on his math schedule.*
10/15/72	*Very creative stories. Needs to work on punctuation and spelling.*
10/18/72	*Wrote an excellent play. Asked to perform it involving other class members. Willing to practice after school. We decided he would do this instead of his book presentation.*
10/24/72	*John worked right through the chaos of the class putting out the newspaper in order to complete his schedule.*
11/2/72	*Improvement in his spelling. Conscious now that punctuation is necessary.*

In evaluating our students, as to performance in this type of classroom, it is increasingly difficult to put a grade on achievement. In our classrooms, we tried to relate individually with students and make an assessment of a child's progress in terms of his ability and his pursuit of answers to problems. We observed what a child did and what he did not do. We wrote comments several times a week in the Class Log, noting such things as the projects he was working on, any difficulties he was having in any academic vein, some interesting contributions he had made in sharing time, behavioral changes we had noticed, or anything else which helped us assess the child as a whole.

We had a reporting system that was checklist- and comment-based. With two of the reports, parents had a conference with the teacher. We found the Log invaluable for making an assessment of a child's growth during a term and reporting it to parents.

In keeping records of daily work, we made comments on the student's schedule. At the end of a week we collected the schedules and kept them on file.

A sample schedule with comments appears on the following page.

In math we usually kept a record of test scores after a student completed a math plan.

Information such as the books a student has read and the conferences we had was kept in a conference notebook. Other scores in individual labs such as Pilot Library, SRA Kits or Grolier Enrichment were recorded by the students in their own record books. These were reviewed periodically and at the end of each term to give a full assessment of a student's progress in reading.

We found it difficult to get away from grades entirely. Our students found this difficult and often asked what a particular comment on their paper meant. We gave grades on tests and on some long-term projects. We used comments on daily work in reading, language and creative writing. This was a gradual movement away from grading for both the students and us. We felt that by deemphasizing grades and the striving for an "A" per se helped the students form a more positive (intrinsic) attitude towards school work.

They also began to think more about going further into topics because they were interested in them rather than doing it for a grade or to fulfill a requirement. For instance, Esther

PAT: Elaine C. WEEK OF Dec 11

A.W. = Addison Wesley
R.A. = Reading Attainment
R.D. = Readers Digest

	MATH	READING	LANGUAGE	SCIENCE	SOCIAL STUDIES	SPECIAL:	I need help with:
MONDAY	Ginn Bg 254 all 255 1-6 Problems with Lesser-taught Use Chip Trading	Individualized book BK Stories of the Supernatural P 60 CHOICE: A.W. R.A. #6 R.D. 18/20	Skill Sheet 13/15 Sequence Story Starter #3 effective start on a Christmas Story	Experiment #2 with Yarn WK sheet	Class lesson Middle Ages	Art	Bases - esp #2
TUESDAY	MATH A.B.C. Bg 168 1-10 MacP. 134-1-4 Reviewed Chip Trading	READING BK Stories of the Supern. P 60 P 75 CHOICE: A.W. R.A. #7 R.D. 19/20	LANGUAGE Skill Sheet 16/20 Main Idea Story Starter expanded #3 Finished Story	SCIENCE Experiment #3 Decided on mini-project Nice idea on nerve tester	SOCIAL STUDIES Class lesson	SPECIAL: Woodwork + Sewing	I need help with: Bases Set up Unit with Elaine and understands concepts Letter
WEDNESDAY	MATH Ginn Bg 256 all Ginn Bg 257 Practice Prog.	READING BK Stories of the S. P 75 P 105 CHOICE: A.W. R.A. #12 R.D. 17/20	LANGUAGE Skill Shet 18/20 Inference Story Starter #5	SCIENCE Experiment #5 Worked on Nerve Tester	SOCIAL STUDIES Class lesson Worked on interviews - as a SERF	SPECIAL Bookstorey Shared Christmas Story and 2 books - interesting projects	OTHER: Taught Chip Trading to George
THURSDAY	MATH Ginn Bg 258 1-15 WK sheet 5,6 Did extra Ayrsmith sheets	READING BK Stories of the S. P 105 P 125 CHOICE: A.W. R.A. #7 20/20	LANGUAGE Skill Sheet 10/12 Ordering Story S tarter #4	SCIENCE Exp. #6 Worked on Nerve Tester	SOCIAL STUDIES Finished interviews with group. Taped	SPECIAL Music	OTHER: Working on toothpick tree
FRIDAY	MATH Test 19/20 Place for 1 new plant on 4or.	READING BK Conference P 125 End CHOICE: A.W. R.A. #9 R.D. 20/20	LANGUAGE SKILL Sheet 7/10 Paragraphing story starter #8	SCIENCE Poster on Nerve Tester Fair Friday	SOCIAL STUDIES Discussed taped interviews with class.	SPECIAL Gym	OTHER: Finished tree

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had a student who was very bright in all academic areas, especially math. When Esther held a remedial division group, this girl came to it. Now, if she had only been concerned about grades, she probably wouldn't have come to the group since it would have been admitting that she wasn't an "A" student. Also, it took time away from her other work. As it was, she felt she needed practice on long division so she made the decision to come to the group.

We must also stress that we were able to deemphasize grades because our reporting system was comment-based. If it hadn't been, we would have had to find some way to quantify our grades.

> *"If the environment permits it, anyone can learn what he chooses; if the individual permits it, the environment will teach him everything it has to teach. . . . . It is highly possible that what is called the talented behavior is simply a greater individual capacity for expressing."*
>
> Viola Spolin
> *Improvisation for the Theatre*

III. PHYSICAL STRUCTURE

Do you need to change your classroom physically? If so, why? We ask the question because many teachers have changed the physical structure in their rooms and decided the room was now free and open. However, we felt it was important not to change for change sake. We knew that we would have to know why we needed a particular environment, so any change in the physical arrangement of the room came as a result of the change in our program. All our physical changes reflected some need. As we began to individualize our rooms and develop materials for each subject area, we had to establish different areas within the room, so that students would know where to get the materials they needed as they worked. For instance, we wanted the students to be able to perform experiments in science when they were assigned to or chosen by them. Therefore, we needed a place to put science equipment of all kinds. Our science area consisted of a work table and a set of shelves on which to store equipment and activity cards.

Our first physical change came as a result of a change in the reading program and a discussion with the class. The class decided they would like to have a rug on which to sit and read when not at their desks. They also wanted it to be a more quiet and private area. So we made a divider out of tri-wall* to section off a reading area which also held magazines and paperbacks.

We laid a rug that someone had donated and we had our reading corner.

We went through a similar process to organize a math area. We put all the books, games, sheets, cards, and manipulatives that had to do with math in a couple of bookcases. We made a table out of tri-wall that was low to the floor so that students could sit on the floor and play the games or use the materials there.

Since we often had students working together, we arranged the desks in groups of four to six. This also conserved space and allowed for more communication among the students.

We also decentralized the teacher's desk so that we could discuss work with students more privately.

We rearranged our room a few times during the year whenever we felt the need for it.

As more areas were created, there were more places for kids to go and thus more mobility. This, of course, was a big change in the room and at times seemed chaotic. We discussed with the class what movement was necessary and what movement was disrupting or in-

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*Tri-wall is heavy corrugated cardboard that is fairly strong. It can be obtained at Workshop for Learning Things, Bridge Street, Watertown, Massachusetts. The sheets are 6 feet by 8 feet and are very good for making tables, stools, shelves, etc.

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terfering with someone's work. As we worked into our program we felt more relaxed about the mobility in the room. At first, kids were excited about the novelty of moving around and walked around a lot. But soon having a different place to go to do things became very regular to them and they worked well this way and were able to work for longer periods of time. We also couldn't expect kids to work constantly. Because of the different structure and program, their behavior differed from just sitting quietly at their seats all the time. Often a student would get up and chat with a friend or look out a window or talk to an animal. Just as teachers needed breaks, so did the students. It was this new relaxed atmosphere that made the classroom so pleasant for everyone to work in.

IV. READING

Reading is one area in which individualization is important. Even with the more traditional methods, the teacher had reading groups. This indicates an awareness of the different reading levels that exist within a class. Jane was given only basal readers, so she stored most of them in her closet. She kept out a sample of the different books for remedial help. Some were cut up into mini-stories that kids read and made interesting covers for. There were only a few paperbacks available, so she went to both the school and town libraries. Every student selected a book he wanted to read. Kids got really turned on to reading when they could make their own selection. It was all right for kids to experiment for a while with different topics and levels. Some kids chose easy books at first, but Jane suggested more appropriate books whenever necessary. Jane brought in books dealing with a variety of topics to excite and motivate the reluctant readers.

After the selection of their first independent book, Jane administered the Stanford Diagnostic Reading Test to the entire class. She scored the test and obtained a stanine for each subtest and a grade score for reading comprehension. Then she made up a class profile sheet by substituting student numbers for names. This sheet shows at a glance the range of abilities in each area of reading measured by the test. Directions for making class profiles are given in the Test Manual, and a sample of the Class Analysis Chart is given on the following page.

Based on the Profile Sheet, students 1 and 4 have earned above-average scores on the Reading Comprehension Test. Student 5 obviously needs help in the area of comprehension; student 3 needs help in the decoding skills.

Jane grouped the students who needed help in syllabication and sound discrimination. Two to three times a week she gave lessons using the dictionary, worksheets, SRA kits, transparencies and cards. The students worked follow-up sheets and cards independently and were checked off on their schedule. On other days, Jane formed informal groups who needed help in comprehension. She started by using short selections from Junior Scholastic and Newstime, articles she reproduced from the newspaper, and magazine stories for improving comprehension. Stories from Basal Readers were rewritten and illustrated for the younger grades by this group.

However, the main focal point of the reading program was the reading of individually selected books by all students. Once the student chose a book to read, we discussed together the minimum number of pages he should read daily. This minimum gave the student some idea of what was expected of him and was particularly necessary when selecting his own book to read. Later on, we dropped the minimum requirements but in the beginning we felt the students needed this guideline. Here also we considered individual rates, and the minimum requirements varied from five pages a day for the slow readers to 25-plus pages a day for the more fluent readers. In this sixth grade class, the range went from one student who read four books all year to another who read a book a week. Adjustments were made for the student who saw

CLASS ANALYSIS CHART

Phillips Schools - Watertown 1971-72
Room 22 - Grade 6

Stanford Diagnostic Reading Test **LEVEL II**

Stanine	Reading Comprehension			Vocabulary	Syllabication	Sound Discrimination	Blending	Rate of Reading	Stanine
	Literal	Inferential	Tota						
9	1			1	1		1		9
8		1				1	2,4	1,4	8
7	4	4	1,4	4,9	4	4,9	5,6,7	2,5	7
6	8,10	7,8	8	10	9,10	5,10	8	8,9,10	6
5	2	9	2,7,9,10	8	5,6		9,10	6	5
4	7,9	2,10		6	7,8	8	3	7	4
3	3,6	3,6	3,6	2,3,5,7	2	2,6,7			3
2	5				3	3		3	2
1		5	5					5	1
Number of Pupils	10	10	10	10	10	10	10	10	
Median Stanine	5	5	5	5	5	5	7	6	

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the reading teacher and for another who couldn't handle the reading of a book. This student, Greg, had a learning disability and couldn't retain the theme of a book in his mind. So he began by reading short stories and magazine articles and having conferences on them. Eventually, he read books that had a collection of short stories and by the Spring he was able to read a full-length book of 100 pages. We supplemented the program by assigning different things to read—newspaper articles, short stories and periodicals.

After the student selected a book, we had him fill out a slip on it.

EXAMPLE:

Student Name _____

Name of Book _____ *Author:* _____

Number of pages _____

Date Started _____ *Date Finished* _____

Conference Date: _____ *(filled in by teacher at conference)*

The student estimated the date for "Date Finished" by taking his minimum requirement daily page number and dividing it into the total number of pages in the book. For example, Mike D. read a minimum of 15 pages a day. His book had 195 pages, so it should have taken him approximately 13 days to read the book. He added on 13 to the date he started the book. After he filled out a slip, he put it in the Book Slip Box. We used these slips to make out a listing of all the students' names and dates their books were due. This was an easy and quick way for both the student and the teacher to know when the book was due and that it was time for a conference. It helped us keep track of where the students were.

When a student completed a book, he put it on our desk and signed up for a conference on the board. We either read the book if we were unfamiliar with it, or we used various kits, sheets or available books which gave summaries of books and questions. Some of these are *Modern Curriculum Press, A Guide to Reading Enrichment* and *One to One.*

When we read the book, we made a conference card on it. The card contained questions on sequence, factual recall, main idea and inference.* These cards were valuable and were kept in a box. Books became repetitive and we could always refer back to the cards we had made out previously. At first, the task of reading so many books and making out question cards seemed insurmountable. But we felt it was important to read the books since it helped create a certain rapport with the student during the conference. The more able readers made up their own conference cards on books they had completed, and these were used with other students who read those books.

The Conference

The first time we gave a conference to a student, we were more petrified than the student. We had never really discussed books with students or talked to them on a one-to-one basis. We tried having a conversation with one of our students without asking a question. It was difficult!

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*See end of chapter for sample questions.

Students should be aware that the conference is not to "test" him on his reading, but to explore the book with him. This was an opportune time for the teacher and student to exchange ideas and opinions around a common experience. Children viewed the initial conferences as a threatening experience. However, once they had a conference their attitude changed to enjoyment and they looked forward to these few minutes spent alone with the teacher.

We set aside a time every day or every other day to have conferences with students. We had them sign up somewhere on the board when they were ready for a conference. We found a comfortable place in the classroom to conduct the conference and made the student feel relaxed by asking him to tell us a little about the book. After we asked our questions, we had the student select a section of the book to read orally. This was to check any of his difficulties. Sometimes we had him make up a question card on the book which we could use in other conferences. We had a notebook in which to record general comments on comprehension and reading and to note specific problems.

After the student had his conference with us, we discussed together, ways of sharing the book. Depending on the type of book and the student's own preference, there were several things he could do. We changed this list every other month just for variety. Students often contributed their ideas for book sharing.

1. Write a play on the scene he liked best and get other students to help him act it out.
2. Make a puppet show around the main idea of the book.
3. Make a diorama on a scene from the book.
4. If it is a biography, dress up as the person and tell about yourself, entertain questions, and see if the class can guess who you are.
5. Have them try and sell the book to the class by telling the main parts. The person who buys it can read it next!
6. Write a review of the book for the class newspaper.
7. Make a slide show of the book for the class. Use blank slides to write and draw pictures, with music and narration to supplement it.
8. Write a newspaper article about the book or the exciting parts in it.
9. Have the class write a simplified version of the book making their own illustrations and cover. Others could read this mini-version to see if they would like to read the book.
10. Do the same as Number 9, but give the mini-version to a lower grade.
11. Write to the author and/or the illustrator and ask them any questions about the book. Generally, the authors responded and answered inquisitive questions like "Why did you write the book?" and "How did you name the main character?"
12. Make a booklet from copied paragraphs from the book you've read. Each one must be descriptive. You should be able to form a mental picture from it. Copy paragraphs that describe animals or characters or a descriptive, exciting scene. Have the group draw a picture from what you've written.
13. Make papier-mache, wire or pipe cleaner figures of characters in a setting from the book.

14. Play "Character Chain." A leader names a character from his book. He calls upon a player in the group to respond by naming another character from any book whose name begins with the first letter of the first or last name of the leader's chosen character. He must do so before the leader counts to ten. He also must name the book from which he took his character. If he can't do it during the allotted time, he is out and the leader calls someone else. If he gets it right, he becomes the leader.

15. Same as above—"Name the Title." Group leader calls out the name of a character in a book. He calls on someone to give the title of the book.

16. Write a letter to a friend or the librarian recommending the book and cite the specific reasons for such a recommendation.

17. Cut out a Sunday comic strip with characters like those in the book you have read. Example: Mutt and Jeff characters (2 men, wife and mother-in-law). Write in a conversation that your characters could have, matching it with the action in the pictures.

18. Make-Believe cards. Pass out cards to several students with a set of directions. These directions pertain to something a character does in your book. Example: if you read *Racing Mechanic*, you could pass out a card with directions to make believe you are a mechanic. A person could make motions to show changing a tire or fixing the engine. The group tries to guess the directions. This can be done before you tell about the book.

19. Write vocabulary words from your book on 3 x 5 cards, leaving space for definitions. Put the cards into a box. Divide the group into teams. Each player draws a card and writes a definition on the card without the use of a dictionary. The teams line up for a spelling match. The first in line on Team A reads his definition to the first player on Team B. If the player on Team B identified the word, he makes a point for his team. If he does not know the word and it is agreed that the word was clearly defined, the player on Team A who read the definition tells the word and scores one point for his team. Player 1 on Team B then reads his first definition to Player 2 on Team A. The last player on Team B reads his definition to the first player on Team A. The team with the most points after all the definitions have been read, wins.

20. A Dictionary Game. The person sharing a book selects 10 to 15 vocabulary words from his book. He looks up a word and jots down the page number and the column. He divides the class into two teams. The first person on each team has a dictionary. He pronounces a word and the people look up the word as quickly as possible. The first person to find the word shouts out the column and page number. A point is scored. The dictionary is then passed to the second team. The game continues until all the words are looked up. Highest score wins.

Some class projects were:

1. Vote for the book of the month.
2. Make a bulletin board display of new words found in reading.
3. Vote for the best author.
4. Vote for the best mystery, fiction, biography, non-fiction, etc.

5. Have a group of students that will read to younger students.
6. Have a poetry reading or seance.
7. Have a book swap day.
8. Have some students make a tape of a book that can be listened to on headsets while reading the book.
9. Have students act out main parts from books and have the class try to guess which book the scene is from.
10. Have some kids work with the librarian and have a "Mystery Month" during which they could make displays, have readings and plays related to the theme of the month.

It was not necessary that a student share every book he read since this became tedious. It was up to the teacher and student as to how much he liked the book; and if the book lent itself to a presentation, we would suggest that he do an activity with it.

Within a few days of the conference, the student should have chosen another book, filled out a book slip and the teacher have recorded the next due date.

Other ideas we found useful for supplementing the reading program were:

1. Magazine rack—teacher can assign interesting articles periodically.
2. Newspaper rack—great for class discussions on controversial topics or just for fun reading.
3. Readers' Digest for Children.
4. Scholastic Individualized Reading Program.
5. Phonics and skill sheets for remedial work—can make them up or tear them out of old workbooks and texts.
6. Envelopes containing cut-up comics for kids to put in order to help with sequence. Kids enjoy this.
7. Stories or pictures made up by students also cut up to help with sequence.
8. Crossword puzzles made up by teacher and/or students.
9. SRA kit, Grolier kit, or short stories cut out from books to help in specific areas.
10. Library Sampler—Learning Research Associates for kids to sample books for future reading and to develop an appreciation for literature. Kit contains excerpts from books and summaries of some so kids can sample a new book to see if he would like to read it. It also has some work on more specific reading problems.

SAMPLE QUESTIONS FOR CONFERENCE CARDS

In making up the conference card we had questions of varying types. The first questions on the card were related to recalling specific information from the book. Then we asked questions that went beyond the book—inferential-type questions.

Here is a sample of general comprehension questions:

1. Describe the main character of the book.

2. Give the main idea of the book.
3. Does any character in the book have a problem to solve?
4. What makes you like one character more than another?
5. What event in the story did you like the best?
6. Did the book end the way you wanted it to?
7. How did the story get the title it had? Do you feel it is appropriate?

Here is a sample of inferential-type questions:

1. Do you think the story could have taken place in another time and another location?
2. If you were the main character in the book, would you have done anything differently?
3. If you were the author, would you have ended the book differently?
4. Have you had any of the experiences that the main character had?
5. What makes a great mystery?
6. If you were the investigator, would you have gone about solving the mystery the same way he did?
7. What makes a champion?
8. What is your favorite sport? Why?
9. If the animals could talk like the ones in this story, what would you ask them.
10. Describe how the author felt about animals.
11. Would you recommend this book to anyone in the class.

There are many other types of questions and certain questions can apply to any book.

It was no easy job changing our reading program to a more individualized one. There was a lot of organization and record keeping involved. Since each student read his own book at his own rate, it was easy for us to lose track of what was going on in the room. The student could also become overwhelmed if he did not keep track of his reading. So it was important for both of us and the student to keep due dates, conferences, and sharing of books up-to-date.

For variation, we added interesting supplementary material to the reading program periodically. Class or group discussions on newspaper or magazine articles are often exciting. Class plays on favorite stores can be fun.

V. MATH

We felt math could be an exciting subject for our kids and for us because it lends itself to many manipulative activities. Many teachers, however, fear math or feel unsure of the subject. Students sense this insecurity and many of them feel this way also. We thought that if we could make the subject fun and alive, we could instill this excitement in the student.

Esther took over a class in the middle of the year. Her special subject was math. It so happened the previous teacher didn't particularly like the subject and as a result, the class hated it. Actually they didn't understand it and were afraid of it. Esther involved them in all kinds of games, concrete manipulation of objects, and in many homemade individualized cards which taught particular concepts. Soon the class didn't find math so overwhelming and foggy. Esther had laid the subject out for them and exposed them to various modes of learning math.

It was important for the student to feel some control over a subject and to have some confidence in himself to handle it. This was especially true with math. One approach we found successful was a multi-text approach. This program was developed in a Summer Workshop in Watertown in which Jane was one of the participants. This program used three different texts, games, manipulative objects (Cuisinaire rods, pattern blocks, cubes, etc.), and homemade activity cards. The three texts chosen differed in approach and style. One was very conceptual, another rather concrete in approach. The third book lay somewhere between concreteness and abstractness. In the Workshop, Jane went through the books and made up individual programs on each concept. There were three different programs varying in difficulty. Program 1 was more difficult and dealt with more conceptual programs; program 2 was similar with more concrete problems assigned; and program 3 was for slower students and dealt mainly with concrete problems. Jane then used this program in her class. Using this idea, Esther made up a similar program using the books that were available to her in her system.

She used the classroom text as a base and tried to find two different math books to complement it. All that was needed was five copies of each book and the Teachers' Editions. She selected a text that was more challenging for the top students and a self-explanatory text with more concrete examples for the slower ones. Here Esther truly assumed that the classroom text was geared to the average student. Math became more interesting to kids because they could use math texts with different approaches. At the same time the student was learning different ways of attacking the same problem.

Once Esther decided on her first unit, she took the three books home and worked out separate programs of varying difficulties. (You can make up as many programs as you want on each unit.) She found three to be satisfactory because it covered the range in her classroom. She used the diagnostic test along with her knowledge of the students' abilities to place them in a program. The placements in a program were not final and she frequently moved students from program to program. Esther supplemented the plans by bringing in pertinent games and manipulative activity cards, and she gave lessons whenever appropriate.

Whenever the students had any difficulty, they could ask a classmate or Esther for help. There were times assigned to see the teacher if a new concept was to be learned. Lessons were still given on problem areas, or to teach new concepts to groups of kids. Cumulative tests were given at the end of each unit.

In order to initiate this type of program in the classroom, Esther made up a diagnostic test which contained a sampling of concepts, applications and computational skills. In this way she could discern the various weaknesses of certain students. After the test she decided the units of study for the class. Some of the units included place value, problem solving, addition, subtraction, fractions, multiplication, division, symmetry, decimals, and graphing.

Suggestions and a Sample for Implementing an Individualized Math Program

1. Each child had a notebook in which he kept his programs and did his work.
2. The student corrected his own work and recorded the score on the top of the page. It was unworkable for the teacher to correct so many pages daily. If we had students who were irresponsible in correcting their own work, we spoke to them and corrected their work for a while. Also, before a student got the Teachers' Guide, we would initial the page. It was a quick check to see that all the work was done.
3. We checked students' work progress by going over their math notebook daily with them. Some students' work didn't need to be checked daily. It was up to us to decide who could work longer independently.
4. We made up a test for the end of each unit which each student took whenever he completed the unit. Sometimes, if we felt a student was proficient in a particular unit, we gave him the test first. If he did well by predetermined criteria, he could skip all or part of the unit.
5. We kept all math texts in a centrally located place in the room.
6. We kept the Teachers' Edition separate from the texts but also in an accessible place in the room.
7. If many students came to us with the same problem, we got them together in a group and reviewed the concept in question.
8. We had students work together on fun type activities, graphing data, measurement or making a mathematical instrument.
9. We kept students moving through the programs. If the program was too easy for certain students, we crossed out pages or eliminated problems he already knew. We sometimes gave him the unit test and had him move on.
10. We used more capable students to help explain concepts to other students. It was nice to see one kid ask another for some help on something he "doesn't get."
11. We continued making programs on units, since students moved through the programs at different rates.
12. We expected a minimum requirement from the students. We found two pages a day to be about right. This, of course, is flexible. Whatever the student did not finish was his homework, along with other sheets that were assigned to kids who needed the practice.

Here is a sample section of a math plan:

UNIT: *Introduction to Fractions – Grade 6 – Individualized Math*
Covers concept of equivalent fractions, lowest terms, identifying of fractional parts.

KEY: *"MER"– Discovering Mathematics – 6 – Charles E. Merrill Publishing Company*
"HORN"– Exploring Elementary Mathematics – Holt, Rinehart & Winston, Inc.
"A.W."– Addison Wesley Elementary School Math – Addison Wesley Company

Program I	*Program II*	*Program III*
Introduce unit to groups that are ready by discussing HORN pgs. 149-153. Have class play Competitive Fractions, Fractions Are As Easy As Pie, Make One _____. Spend several lessons using pattern blocks and Cuisinaire rods for visual stimulation and conceptual understanding.		
MER p. 76 all	*A.W. p. 124 all*	*HORN p. 149 all*
p. 77, 7-10	*p. 125, 1-9*	*p. 150 all*
A.W. p. 126, 1-6	*MER p. 79, 1-7*	*A.W. p. 327, set 20*
A.W. Discussion, p. 128	*MER p. 80, 1-3*	*HORN p. 166 Discussion*
. . .	. . .	. . .
Test	*Test*	*Test*

Not all pages in each book on a particular topic are used. Neither are all the problems on a page always assigned. There is no need to include too many of the same type problems for students to do. This is often what makes math a chore for kids. "Discussion" means the beginning of a difficult aspect of the unit and the student should see the teacher.

Activity Cards

We found a good way to supplement our math programs was to make up several cards on various concepts for the students who needed practice. We tore out math workbook pages and put them on oaktag. We made separate answer cards or put answers on the back of the problem cards.

For example, a card on Lattices reinforces addition.

SAMPLE:

10	*11*	*12*	*13*	*14*
5	*6*	*7*	*8*	*9*
0	*1*	*2*	*3*	*4*
-5	*-4*	*-3*	*-2*	*-1*

6↑ = □ *16↓↑ = □* *10→→↓ = □*

7→→ = □ *4↑↑↑↑ = □* *14↑↓↑↑↓↓ = □*

-2↑↑↓ = □ *9↓↓↓↓ = □* *-1 ←←← → = □*

Occasionally we assigned these cards in the individual programs or later for remedial

work. The cards also provided a change of pace for the students and another mode to work with. We also purchased commercially made cards and used them in the individual programs, and we ran off worksheets regularly for help in various concepts.

Games and Projects

We developed many fun and easy math games to reinforce certain concepts. Many were modeled after card games that children already know how to play and enjoy. They include "Crazy Eights," "Fish," "Old Maid" and "War." Here are some ideas we used:

1. Old Maid Fractions–

   a. Make up 25 pairs of equivalent fractions, i.e., 1/2, 5/10, 2/3, 4/6, 2/6, 1/3, 4/12, 3/9, 1/5, 2/10, 3/15, 4/20, 1/4, 5/20, 2/8, 3/12, 6/12, 2/12, 6/36, 1/6, 2/12, 6/36, 3/18, ...

   b. Make one Old Maid card. The Old Maid could be some figure like

   c. Four players can play and the dealer deals out all the cards. Players put down any matches they have. Two equivalent fractions make a match. Each player picks a card from the player to the left of him. When a player has a match, he discards the two cards. The player who is stuck with the Old Maid is the Old Maid. This game may be varied in many ways.

   Variations–

   a. Matching multiple problems 2 x 3, 1 x 6, 5 x 2, 1 x 10, 3 x 6, 9 x 2, 3 + 3 + 2, 4 x 2, etc. The degree of problem difficulty can be varied.

   b. . Matching fractions and decimals .50, 50/100, .7, 7/10, .2, 2/10.

   c. Matching percent and decimals .50, 50%, .7, 70%, .2, 20%

   d. Matching division problems 25/5, 5, 12/4, 3, 6/3, 2, 10/5, 2, etc. . . . .

   There are many other matches that can be made.

2. Fish–

   This game is played like the card game "Fish." Make a deck of cards (52) using matches as above. Dealer deals seven cards to each player. The object is to get as many packs as possible. A pack consists of two or four cards that make a match, i.e., 2 + 4 - 1, 2 + 3, 5 + 10, 25 - 10. A player may ask for a "5" card from the player to his left. If he does not get it. he picks from the deck. The player with the most packs at the end of the game (when there are no more cards to pick from) wins.

3. War and Crazy Eights can be made as above using the rules of the card games themselves.

We sometimes used fewer cards and varied many of the games. Kids also enjoyed making up games and we often asked them to do so.

For convenience, we include at the end of this chapter a list of commercial games which we found helpful. We've used most of them and the kids seemed to enjoy them.

I. Graphing-Bar, line—— Information obtained from class by individual students.

a. ages
b. birthdays
c. bedtimes
d. best subject
e. plant growth
f. favorite TV show
g. most popular rock group
h. height
i. pictures of animals, etc. Plan out sets of points which when connected will be some object or animal. Kids can plot their own points and have other students solve the "mystery" picture. These can be added to the math card collection.
j. temperature of different rooms

II. Measurement

a. Distance from the classroom to other rooms.
We had different students use different measuring devices and later compare results. They used trundle wheel or yardstick, or marked off by walking.

b. We extended measurement outside the classroom to find the perimeter and area of their favorite room at home.

c. We introduced scale drawing by having the students make blueprints of their dream house.

d. To determine volume we had the class use blocks and construct models for each other.

III. Tangram Activities

a. We had the class put puzzles together.

b. On paper, we had the class make designs and pictures of certain places, trace them and exchange them with other students.

IV. Geometric Designs

a. Making curves from straight lines by connecting points

b. Making pictures by using only certain geometric shapes

V. Challenges

a. Kids submit math problems and puzzles on oaktag to the class. Could be called "math fair."

b. Kids make math "Mini-books" which teach a concept. For example, subtraction with borrowing. These books can be given to students in the lower grades to try out. Illustrations can be included.

VI. Tax Returns

We obtained Income Tax Return forms from the local bank. In groups, we discussed the various questions and the terms used (exemption, deduction, dividend, etc.). We gave the necessary information such as income, savings, etc., and the students performed the operations. Very interesting activity!

By using some of these activities, math was really exciting for us and the class. We felt we owed it to ourselves and the class to get away from the boredom of a single textbook. Who knows, maybe your students will begin to like math! And how about you?

Math Materials

Games and Manipulatives

1. *Heads Up* – Creative Publications, Inc., Bridge Street, Watertown, Massachusetts
   + and - equations, intermediate
2. *Numble* – Creative Publications, Inc.
   + and ÷ by 3, intermediate
3. *Cover Up*
   number facts, lower and upper elementary
4. *Krypto* – Creative Publications, Inc.
   card games, +, -, ÷, x, intermediate
5. *Prime Drag* – Creative Publications, Inc.
   dice game with board, primary and composite, intermediate
6. *Attribute Games + Problems* – Creative Publications, Inc.
   measurement, sets, geometric shapes, primary and intermediate
7. *Chip Trading*
   good for multi-base activities, primary and intermediate
8. *Geoboards* – Creative Publications, Inc.
   measurement, geometry, fractions, primary and intermediate
9. *Mirror Cards* – Webster Division of McGraw Hill
   330 West 42nd Street, New York, New York 10036
   geometry and symmetry, primary and intermediate
10. *Multifactor* – Creative Publications, Inc.
    multiplication facts machine, intermediate
11. *Tangram* – Creative Publications, Inc.
    measurement, geometry, primary and intermediate
12. *Trundle Wheel* – Creative Publications, Inc.
    measure yards, intermediate
13. *Competitive Fractions*
    intermediate
14. *Math Match* – Creative Publications, Inc.
    card games, numbers, geometry, sets, primary and intermediate
15. *Cuisinaire Rods* – Cuisinaire Company of America
    12 Church Street, New Rochelle, New York 10805
    all levels
16. *Dienes Blocks* – Herder & Herder, Inc.
    232 Madison Avenue, New York, New York 10016
    all levels

17. *Soma Puzzles*
intermediate

18. *Winning Touch*
intermediate

19. *Addo & Multo*
primary and intermediate

Cards and Worksheets

1. *Addison Wesley Activity Cards* – Addison Wesley Publishing Company, Inc.
Reading, Massachusetts
numerous concepts, available at all elementary levels

2. *Aftermath 1,2,3,4* – Creative Publications, Inc.
enrichment, fun activities, intermediate plus

3. *MacMillan Activity Cards* – MacMillan Company
866 Third Avenue, New York, New York 10022
concept cards, primary and intermediate

4. *Tangramath* – Creative Publications, Inc.
shapes, area, primary and intermediate

5. *Benefic Press*

VI. LANGUAGE ARTS

The problem with language is that in the area of grammar, the same content is taught from Grade 3 on. We felt grammar was important in that it related to the student's ability to clearly communicate his ideas to others. We felt that it was important for the student to know how to correctly use the words in a sentence. For us it was imperative not to divorce grammar from writing. Grammar could not be taught in a vacuum; it had to be taught in relation to the student's written work.

We felt that of all the school subjects, grammar was the least conducive to change. We found it to be a rather limited area with regard to creating more exciting and interesting activities. However, we also realized that grammar would continue to be taught rigorously. The following are some ideas we developed to make grammar more interesting and student centered.

Activity Cards

We made good use of English workbooks. We cut up several books and stapled the pages on oaktag and put them in a "Grammar Box." Eventually, we built up a collection of two or three cards on each part of speech, punctuation, etc. Whenever we taught a certain concept or reviewed one through discussion, board work and/or lessons, students worked on these cards. They kept the answers in a notebook which also had a score sheet. They corrected their own work by using the Teachers' Guide.

We did the same thing with homemade and commercially prepared worksheets. Rather than run off a set for the entire class, we ran off a few of each and stapled them to oaktag and added them to the "Grammar Box." We found these cards to be more satisfactory than just textbook exercises, because students who forgot a concept during the year could always refer back to the box. Students also enjoyed being able to go to the box to choose a card on their own.

The idea of making up cards in all subjects really fits into our desire to have students work independently at their own pace, make choices and have more control over their work.

Another type of card we used to motivate students to practice grammar concepts was the "mini-index-card." We used 3 x 5 cards and put them into a packet for easy access. The important idea in these cards was to make them brief and fun. We made up cards on each part of speech. We tried to write brief, humorous stories leaving our certain words, such as the correct tense of any verb. We also made up cards on capitalization and punctuation. These were particularly good for the slower students or the bored ones, and were often assigned to any student needing help in a specific area.

Games

Other interesting cards that we made and that were more game oriented included:

1. Write as many NOUNS as you can think of in a minute. Have one student time another. This can be done with all parts of speech.
2. Another activity which we used to reinforce the learning of certain parts of speech was the making of noun books, verb books, adjective books. Example: Students cut up pictures that represent nouns, cut out noun words, make up their own nouns, and make a summary statement on nouns at the end of the book. These were available in the classes and students referred back to them when they forgot a certain part of speech.
3. List as many five-letter words as you can in a minute.
4. List as many double-vowel verbs as you can think of in two minutes.
5. List as many words beginning with the letter "S" as you can in one minute.
6. Homonyms are words which SOUND alike but mean something different and are spelled differently. Example: sea - see. List as many as you can in three minutes.
7. Synonyms are words that mean the same but are spelled differently. Example: house - home. List as many pairs as you can in three minutes.
8. Antonyms are words that mean the opposite. Example: cold - hot. List as many pairs of opposites as you can in three minutes.
9. Get together with another student and play "Jotto." Each player thinks of a five-letter word and writes it down. The object of the game is for the players to guess each other's secret word. Player A in turn says a five-letter word to player B. Player B tells how many letters in the word are in his own secret word. Player B then names a five-letter word to player A. Player A tells how many letters in the word are in his secret word.

   Example: Player A's secret word is SHIRT.
   Player B's secret word is HORSE.

   Player A says the word "Night" to player B. Player B answers, "One." He doesn't tell which letter is alike (the "h"). Player A writes down "Night" with a "1" beside it. Player B guesses "House." Player A answers, "4." Player B records "House" with "4" beside it. The first one to guess his opponent's word is the winner.
10. Get four other people to play Password, two pairs and a moderator. The moderator obtains a word packet from the teacher. (The teacher should have word packets made up from their spelling, vocabulary used in social studies or words the students have made up. Words should be of the same level of difficulty.) Use directions from Password TV game.
11. Make cards dealing with the senses—Touch, Taste, Smell, Hearing, Sight. What is your favorite dessert? Write as many words as you can think of to describe it.
12. Describe your feeling when your team won the championship in _____.
13. The game of Concentration can be played using antonyms, synonyms or homonyms. It involves two, three or four players, and the object is to get as many matches as possible.

    RULES:

    We played with cards on which were the words to be matched. These cards were put in pockets (like those in a library book) and the pockets were stuck to a felt board. The first player turned over a card in the pocket so that the word was displayed. He had to

then try to find the match to the card and turn it over. (This is obviously hard to do on the first play of the game since none of the cards have been turned over previously.) If a match is made, he takes the cards (i.e., right, write) and takes another turn. He now has one match. If no match is made, both cards are again turned over and the next person takes his turn. The idea is to concentrate on the cards that have been turned over, and remember where they are in order to make a match.
The game can also be played using cards that the students can arrange face down on a desk or the floor in a 4 x 5 or 4 x 6 array. The students then turn over the cards and try to find matches.

14. Another of Jane's small group activities was to have a student write a sentence with a specific number of words. (Example: Write a sentence with nine words. Student sentence, "After school today I am going to play baseball.") The student cuts up his nine-word sentence. He turns over one word and tells it to the group. Everyone writes down what they think the sentence might be using that word. The student checks if anyone guessed his sentence. If not, he then turns over another word and the students again write down what they think the sentence is. This continues until all the words have been revealed or until someone guesses the sentence correctly. Sometimes the sentence will be guessed on the fifth or sixth word. The first person to identify the sentence has the opportunity to write his own sentence. The purpose of this game is to help kids learn the parts of speech a sentence must contain and those that make the sentence more interesting.

15. Another thing we tried was the "Cube Game." We used this to reinforce knowledge of parts of speech and for extemporaneous oral, continuous stories made up by a group.

For parts of speech:

2 noun cubes –	one with six singular nouns
	one with six plural nouns
2 verb cubes –	one with six singular verbs
	one with six plural verbs
an adjective cube	
a pronoun cube	
a preposition cube	
an interjection cube	
an adverb cube	
a conjunction cube	

We put these cubes in a box and made up cards with various directions. Students drew a card and read the directions to a partner or a group and followed them. The partner's group decided whether or not it was correct. Each card had points on the bottom and a certain number of points was a winner. Some sample directions for the cards for "Cube Game" are:

a. Select any two cubes, roll them and make a sentence.

b. Select any three cubes, roll them and make a sentence.

c. Select any four cubes, roll them and make a sentence.

d. Select any five cubes, roll them and make a sentence.

e. Select any six cubes, roll them and make a sentence.

f. Select as many cubes as you want and roll them to make the longest sentence you can.

g. Make a sentence with no adjectives.

h. Roll out every cube and make the longest sentence you can.

i. Make a sentence with a pronoun, adjective and verb.

Occasionally we involved the whole group in one activity with the cubes. We had someone roll out a sentence which was to be the beginning sentence in a story. Or someone rolled out a sentence and a student had to identify the various parts of speech. If he couldn't do it, another student tried.

16. "The Letter Game" can be a group activity or put on cards. We tried it with the entire group at first. A student suggests any five letters (Example: henps), and the class tries to think of a sentence of five words beginning with those five letters, in that order.

*H*appy, *e*xcited *N*oreen *p*lays *s*weetly.
*H*erman *e*xchanged *n*ew *p*lastic *s*lips.
*H*eartbroken *E*ileen *n*oticed *p*eople *s*taring.

In the lower grades, we used only three letters (Example: cam).

Cats *a*re *m*arvelous.
Children *a*ttend *m*eetings.

17. "Word Fun" was another game that prevented spelling and vocabulary from becoming a bore to study and a chore to work with. Some things Esther did in fourth and fifth grade were to make crossword or other types of puzzles with words. Every week she made a crossword puzzle on the spelling words or other words studied. After doing the puzzle, the kids could make up one of their own.

Other word activities we tried were making up puzzles with words hidden in them for kids to find.

b	r	p	x	c
o	a	t	l	r
r	c	b	o	y
n	e	z	y	f

Kids used this type of puzzle to make words by using only adjacent letters, i.e., boat. This was not limited to spelling words. We used sports figures, animals, science words, etc. Kids got very adept at making their own puzzles and scrambled words. If someone couldn't figure one out, we directed him to the person who made up the puzzle. The creator was very smug and told the inquirer how easy it was. Then he gave clues until the two of them were jumping up and down, one trying to find the word, the other telling him when he was close.

Esther made up other activities with words and put them on cards in a box called "Word Fun." On each card was an activity to do, i.e., "Make as many words as you can, starting with the word 'sit,' by changing only one letter at a time." (This is endless.) Another activity was to unscramble the words ENSKA, OROD, DWRO, LZUPZE, or "Try to get from the word 'card' to the word 'stop' by making only one change at a time or by rearranging the letters" (card, cart, part, past, post, stop). There were many ways to do this and many words that we used as "beginners" and "enders."

We also used fun cards with phonetics to help students work at certain blends and sounds by looking for them in puzzles or other games.

Creative Writing

Creative writing was a topic we had daily. We found it helped students to learn how to express themselves. There were infinite possibilities of interesting things to do.

To begin, we had several small group lessons where we gave students starter sentences throughout the writing of a short story. We gave six to eight students an introductory phrase from which to make a complete sentence. Students really had to think to link the story together so that it made sense.

EXAMPLE:

As a purple grasshopper flew overhead _____
_____ . *All of a sudden a cold, grey cloud covered the sky* _____
_____ . *As he gasped for breath* ____
_____ .

Students then read their stories to each other and were surprised as to the differences among the stories.

To help some kids in writing, we made up 3 x 5 cards on which was a small picture cut from a magazine. These were called "Thought Cards" or "Story Cards" and were helpful to the kids who found it hard to think of a topic to write about. The card also had some questions on it to help the student. For instance, one card had a picture of a little girl and a teddy bear sitting at a table drinking. The questions were, "What are they talking about? Do you think they are celebrating something? What are they drinking?" Sometimes the questions were more general since some kids answer only the questions and don't really write a story. With these kids we worked more closely and tried to get them to talk about the picture and not just give answers to the questions. Often they personalized it in some way and could then write more easily. It was fun to read these aloud and compare stories on the same pictures. Later we had students find pictures dealing with particular themes—happiness, sadness, nature, objects, animals, etc. Students selected any theme for a week and made a booklet of several pictures dealing with that theme and wrote a story or a collection of stories for the booklet.

Other story cards did not have pictures, but starter sentences. "One morning Joey woke up and he had no hair on his head. What happened?" Kids had fun writing about these and making up their own starter sentences for other kids. We also gave this idea to the primary grade teachers. They modified their starter sentences somewhat and reported that their classes really enjoyed the method. Also, the younger kids found it fun to draw a picture or a design and write about it.

Another kind of writing that was interesting was process writing (involves specificity and clarity in description and directions). In this, kids usually gave directions of some kind for someone else to follow. The class had fun making up their own recipes and putting them in recipe books. One girl even brought in a delicacy that consisted of coffee grinds, dried leaves and tomato joice which had to be blended in a very special way.

One of our most enjoyable projects in this area was making up games and the directions to play them. Some of the games were quite good and we played them for a long time afterwards. Kids found that writing rules and directions to the games wasn't so easy. They had to be very clear on the meaning of their terms. When the games were being played, questions were asked about the meaning of a particular rule or direction.

Another project was to draw a detailed map to your house from the school and give

directions how to get there. Again, the whole issue of clarity and specificity came up as students scrutinized each other's maps. They learned to deal with problems in clarity and it was a different kind of writing they enjoyed.

Other ideas we found fun were describing someone in the class and trying to guess who it was; describing animals and trying to guess what kind of animal; and making a gory menu where we were invited to Danny's Den to have baked stuffed intestine with blood juice. Chocolate earlobes sprinkled with toenails was also popular. Where else would you have such an opportunity to try such culinary delights but in the classroom where anything goes if you write it so?

Records were a good inspirational source. We used various records to listen to and write about. One day Esther brought in march music and asked the class to listen to it for a while. She played it over and this time she asked them to think of adjectives that the music reminded them of. They wrote these on the board. She played the record again and this time asked for action words on the board. The next time she played the music, the class wrote a short story with the help of the music and the words on the board. The class particularly enjoyed fast music, and marching music inspired a variety of stories. The students wrote about parades, election campaigns, wars and science fiction. Not all kids enjoyed writing to music. It may have been too abstract to them, especially to those who found it difficult to write at all. For most kids, however, the music provided a good base to start with.

The kids enjoyed taping noises like traffic, running water, glasses knocking together, people talking, etc. which we played back to the class. We asked them to write a story about what was going on. One tape of people laughing or crying and talking together, with the noise of glasses in the background, evoked different stories—a funeral, a wedding party, a dance, a supermarket, etc. When the students heard each other's stories, they were amazed at the different ideas the kids had had. There were such remarks as, "Hey, that was a good one!" or "I didn't think of anything like that!"

A project in connection with reading was to write to the author of a book which a student had enjoyed. One girl loved horses and wrote to the author of a book she had read about horses. Although the letter was never answered, she enjoyed writing it and the book remained special to her. One girl also wrote to an illustrator of a dog book and received sample pictures of dogs. In this way, books become special to kids and they gain confidence in their writing and see it as a vehicle for getting things done.

POETRY

One area Esther's class found exciting was Haiku. In general, kids don't like poetry. Occasionally we found some kids who liked reading or listening to it, but for them there had been too much emphasis on symbolism and abstractness. Kids found poetry hard to understand when reading it, never mind writing it themselves. But Haiku was different. There was a structure in Haiku that helped kids write it and there wasn't much concern for rhyming. They could write about anything they wanted within the 5,7,5 syllable structure.

We started by reading some Haiku from books and posters. Esther passed out some of the poems and we talked about what they meant. We found the topics quite ordinary and easily understood.

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Apples green and new
Climbed the tree to capture some
What a stomach ache

This one told about someone who got a stomach ache from eating green apples. The students were having great fun since they finally understood the meaning of some poetry. They were also interested in the style of Haiku in which subjects and verbs were often left out and sentences were not always complete, but the meaning came across. The only rule was that there be three lines. The first and third lines had to have five syllables and the second line, seven. There were variations on this basic structure. The students found this a good and easy structure on which to get started. Soon they were writing about sports, nature, winter, friendship, summer and peace. They also drew pictures to go along with their Haiku. Later we had a "Haiku Hour" where we read all our favorites. Esther put them on ditto masters so the class could have a collection of their own Haiku. It was thoroughly enjoyable.

"Haiku"

by Elaine Cacciola – Grade 5

Falling and playing
Building snowmen and sledding
On the soft white snow

The line is a song
"Everything is beautiful"
Now put in a poem

Running down the street
Playing and fooling around
Kids on a spring day

Another form of poetry the class enjoyed was Cinquain. This is French and is pronounced sin-quane. It has five lines. The first and last lines each have one word which give the main idea of the poem. The second line has two words; the third, three; and the fourth has four, all describing the topic chosen. Here is one written by Erica Lindberg.

People
Black, white
Mean and nice
Mothers, fathers, artists, photographers
Different

STORIES AND BOOKS

For Halloween, Esther's class planned a "Spooky Hour." They wrote their own spooky stories to be read aloud. Esther brought in some dry ice and put it in a punch bowl. The lights were turned off and the shades were drawn. The students had flashlights and sat in a circle on the floor around the bowl of dry ice which oozed its vapor into the glow of the flashlights. In this atmosphere the class read their spooky stories which now seemed more real. They were really "spooked" and listened carefully to all the stories. It was a fun time and not easily forgotten.

Another creative writing idea Esther's class enjoyed was the development of a story over a period of one week. After studying their books, the class tried their hand at writing their own. Esther put a list of topics on a sheet of paper from which the students could choose and sign up for (mystery, ghost, humorous, sports). After they signed up, they had to think of who their characters would be and how to introduce them. We went back to the grammar book's explanation of the beginning of a story and now it seemed to make better sense. They saw how some ideas helped and those that really didn't apply weren't rigorously adhered to. Kids gave the stories their own twists. Some used a dream technique in which the whole story was a dream. Others used a flashback effect. Some liked writing in a fantasy-like fashion where their plants and animals came alive. We never read about these techniques in the grammar book. Kids had just adopted styles they liked from their own reading.

The students wrote a little every day for four days. While writing we discussed what makes a good ending and other parts of a story. On Friday, those who wanted to, read theirs to the class. Kids love to hear each other's stories since many of them are often in the stories. The kids voiced their opinions of what they heard and we talked about what made a good mystery or a funny story. They seemed to have enjoyed authorship and displayed their works in our "Authors' Corner."

Those who wanted to, had their stories mimeographed for leisure reading.

We eventually got into book production with the class. Discussions of what makes a good book, who will read your books, how you make covers, the importance of illustrations and the content, resulted in the class producing books for all grade levels in the school and sending some of them to the Children's Hospital. Those who didn't want to make books became proofreaders, evaluators, illustrators, typists and laminators. This was an on-going activity for the entire year. Books ranged in size from tiny to gigantic. Themes varied from *The Book of Faces* to *Mystery at the Manse Inn.*

We made book covers from cardboard and wallpaper with ring and staple bindings.

The sharing of books with other students in the school became so popular that teachers requested students from our rooms to go into their classes and conduct bookmaking techniques with small groups. The school librarian provided a special section in the library for books made by students. She catalogued them and they were checked out frequently.

CLASS NEWSPAPER

Another on-going activity which Jane's class started in October was a class newspaper which eventually became the school newspaper. She started by bringing in various newspapers. The class compared them and discussed the various sections and their production. They visited

the Boston Globe and decided it would be fun to have their own class newspaper. The class decided as a group the sections they should include. The sections were General News, Sports, Girls' Pages with Dear Gabby, Fun, Games and Puzzle Section, Stories and Miscellaneous which included Lost & Found, Advertisements and Announcements. Kids volunteered to write for various sections and an editor was chosen to make sure everyone wrote information in time for the deadline.

Each group working on a section met to decide what would be of interest. Rather than publishing stories, poems and articles from our class only, contributions were accepted from other rooms as well. In the beginning, very few of the other classes sent in material for the paper, but after a few issues in which the kids saw their names, tons of material came pouring in. Eventually the class decided to put out two issues, one for K-3 and one for 4-6.

To initiate school interest, they had an editorial section in which students could write and tell their views on school-wide issues, such as school lunch program, playground facilities, assemblies, and pets in the classroom. Interviews and surveys were conducted school-wide covering such topics as the most popular Bruins player and where they would like to go on a field trip. Eventually all contributions received could not be published. A group of students was formed to either accept or reject them. Often certain things would become popular and we'd receive ten "Find the Hockey Players Game" or five "Unscramble the Animals Game."

One problem Jane and the class encountered was that in the beginning everyone was enthusiastic but only a few did all the work. So the class decided that everyone should do at least two things for each issue. Also, everyone would help with the typing, proofreading, organizing, designing the front page, printing, assembling and delivering.

At the end of the year, the class spent almost the entire month of June writing a special summer issue. The issue contained lengthy creative stories, information obtained from the Town Recreation Commission on special events and different park activities, and information from the library on movies, book clubs, plays and lectures available throughout the summer.

In-coming classes each year ask if they can have a class newspaper. As a result, Jane has set up a newspaper area which consists of a large table with several *in* and *out* boxes, a typewriter, folders, paper, pens and pencils. Each class adds its own personality to the newspaper and comes up with better and more original ideas and improvements. Classes always enjoy reviewing old issues which are catalogued in the library.

PUBLIC SPEAKING

Another form of creative expression is public speaking. We began some activities in public speaking towards the end of the year. We included five categories: fiction, nonfiction, surprise, humor and opinion. Each category contained appropriate cards with starter sentences, i.e., "Just as I rounded the corner I saw . . . . . " (fiction). We made oaktag envelopes to mark the different categories, and the cards were placed in these envelopes. The students could choose any envelope and speak to another person (later to more than one person) on the topic. The rules were: stand when talking, speak clearly and loudly, put hands where they won't be played with, and think before you begin to speak. There was no time minimum. Some kids preferred going out of the room with another student to speak more privately. Others liked to get up on the reading platform and talk to a few people. Some came in early before school started to do their public speaking with some friends. The listener(s) were asked to make any helpful suggestions. In his schedule, the speaker would record the topic and any comments that

were made, i.e., "Fiction: 'As I turned the corner . . . . . .' Spoke too fast, said 'Uh' too much, good loud voice." The most common suggestion given to the speakers was not to say "and" and "uh" so much.

The students seemed to enjoy public speaking as there was not much attention or bravado put on it. They just chose a topic they wanted and shared it with a classmate. Some were quite shy at first, but as they saw it was mainly in their own hands—no marks, no standing on displey, and no threats—they became more relaxed. Speaking in front of others is difficult, especially for children who get to speak so infrequently in school anyway. We made public speaking an assignment with some guidelines and that seemed to be enough to have it taken seriously. Once the kids were started we left them alone except to talk about how and what they were doing in their speeches. Now and then we sat in on some of the speeches, but only when we felt welcomed.

A fun activity that we used to go along with public speaking was to have students try to talk on a topic for one minute without stopping. This was more of a game and the kids found it hard, but fun to try. On a card which we put in the reading corner, we wrote, "Try to talk for one minute on anything without stopping." When kids would try it, they would call others to witness their feat. It was then that they saw it was not that easy and other kids would be challenged to try it. This activity was a good way to break into public speaking. It helped kids get over a feeling of self-consciousness when talking in front of others.

PLAYS

An activity that combined creative writing and public speaking skills was the writing and performance of plays.

Last Spring after Jane's class had experience writing short plays, performing in them, and had done a lot of extemporaneous speaking, the class and she decided to try a big production. The class and Jane brought in books with plays, one of which was Al Cullam's *Shake Hands with Shakespeare*. The class gravitated toward these plays and Jane discussed Elizabethan drama. Finally, they made a decision to perform "Romeo and Juliet."

It turned out to be quite an undertaking. There were some problems. Some students had difficulty in learning their lines, so provisions were made in the daily schedule for students to sign up in one-half hour segments to help each other. Once they learned their lines, we concentrated on the acting. Eventually, the class meshed as a group and worked cooperatively on costumes, scenery, programs, lights and staging.

The boys, after some discussions, agreed to wear tights and dance with the girls during the Ballroom Scene. The students who played Romeo and Juliet developed a "crush" on each other.

After six weeks of rehearsal, the play was ready. The class put on two performances—one for Grades K-3, the other for Grades 4-6. The response from the student body and the faculty was so overwhelming that the class decided to have a night performance. Parents, friends, relatives, teachers and students were invited and the performance was superb. One teacher remarked that she had paid $8.50 to see the stage play and these students were just as professional and were outstanding in their acting ability. It was a night that my class and I will never forget!

VII. SCIENCE

Science was the one subject Jane really feared teaching. Jane believed she had to have a great deal of scientific knowledge in order to teach science effectively. When a student at the elementary level, science for her had been demonstrations by a teacher, no experimentation with materials, just reading and learning from a science text. As a result, when it came to teaching her own class, she was aware that science should be fun and exciting, and she really had to work at changing her attitude and approach towards it. One thing she decided was to learn science with her class. The emphasis of her program was on the student's own way of learning—through discovery and exploration, through real experiences rather than abstract.

Materials that encouraged the child to devise his own experiments were the E.S.S. Science Kits. Jane first used these with the entire class participating at once. Basically, each kit consisted of a Teachers' Guide which suggested several questions that could be pursued by the students and the materials and equipment necessary for experimental and intuitive learning. Often, the direction of a unit depended upon the discoveries of the students. These units were supplemented with reference books, additional equipment, worksheets, reports, field trips and group sharing of ideas.

When using these kits, Jane realized that she didn't need in-depth scientific knowledge, just the ability to answer a child's question with suggestions of what he could do or where he find information supporting his observations and interpretations of experiments.

One unit she really enjoyed sharing with her class was the Bones Unit. This unit capitalizes on children's natural interest in skeletons by engaging them in real activities with bones. The class divided into groups and each group assembled a skeleton from a box of loose bones—mink, cat or rabbit. Pictures of various skeletons were available for reference. The class began to learn the names of the bones and discussed the similarities and/or differences to their own skeleton. In building up the unit, Jane had purchased an unassembled human skeleton which each group assembled.

The high point of the unit was always the making of a chicken skeleton. Each group brought in money and Jane purchased chickens at a local farm. The various groups started by plucking the chickens, cleaning them out, identifying the innards and boiling them for several hours. They then cleaned, dried, sandpapered, assembled and eventually glued together a standing chicken skeleton. Of course, this activity took several weeks to complete! It was such a popular activity that Jane became known as "the chicken teacher" to the rest of the school. Invariably, each new year on the first day of school a student would ask her, "Are we going to do chickens this year?"

Eventually, as our classrooms became more individualized, we began to look at the place science had in our total program. Science, we believed, should be an on-going activity in the classroom throughout the day. We felt the children should be constantly observing, gather-

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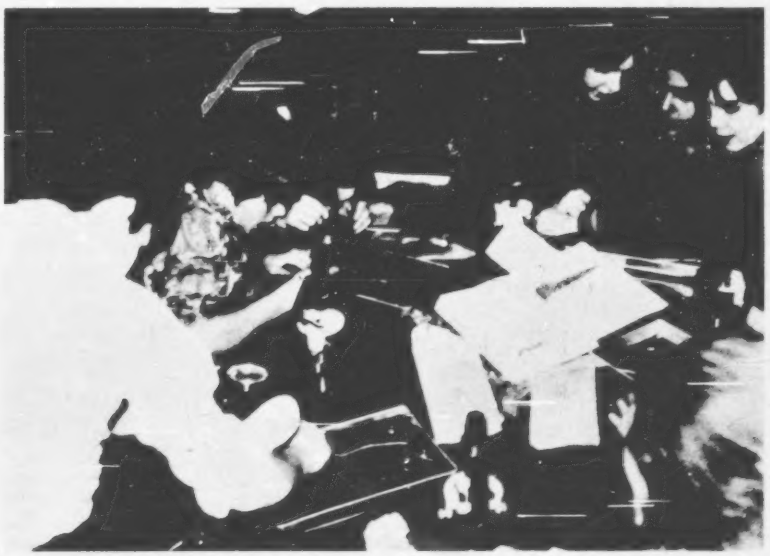
ing information, interpreting it and communicating ideas with each other. In order to do this, we developed a science area. The area was a large working space containing materials from the ESS Science Kits such as microscopes, slides, measuring devices, containers of all sizes, etc.

We took various units and made up Question Cards from the suggestions given in the Teachers' Guide. Sometimes we posed one problem for the class to solve. A sample problem from the Structure Unit was, "Who can span the longest distance using only straws and pins?" Also made were several individual cards for many units listing the materials needed and the problem involved. Children made up their own cards for problems that they wanted to solve. An individual card by a student from the Structure Unit read, "Using only 50 straws, 8 ounces of clay and 25 straight pins, make the tallest and the strongest tower you can."

For the Batteries and Bulbs Unit we made up these individual cards:

1. Using only one battery, one bulb and one wire, light the bulb in as many different ways as you can. Draw or write down your discoveries.
2. Now light the bulb by adding a light bulb holder.
3. How many batteries does it take to burn out a bulb? Take burnt bulb apart and draw what you see. Why do you think the bulb won't light any more?
4. Set up a circuit using four bulbs, four bulb holders and as many batteries as you need. If one bulb burns out, will all the light go out? Why or why not?

In working with fourth, fifth and sixth grade students, we both discovered an almost unanimous interest in animals. We had discussions with out classes to find out what they knew about animals and what they would like to know about them. Students in general wanted to observe live animals and dissect dead ones! In order to organize their experiments with animals,



we discussed grouping of animals with the entire class. By asking thought-provoking questions, we got kids to think about classifying the various animal groups. What is the smallest animal? How would you group flies, beetles and bees? In what group would you find a robin? How would you group a salmon and herring? What do you call animals that can live on land and in

the water? Suggest some animals and let's see if we can classify them. Eventually the class came up with a simple classification that looked like this:

Invertebrates

1. Protozoa
2. Sponges
3. Worms
4. Mollusks
5. Insects
6. Spiders
7. Crabs

Vertebrates (Cold-blooded)

8. Fish
9. Amphibians
10. Reptiles

Vertebrates (Warm-blooded)

11. Birds
12. Mammals

The class decided to attempt to find protozoa in ponds and try to keep them alive in school for observation under a microscope. They looked up information and wrote down the different kinds. We ordered some paramecium from the Connecticut Valley Supply Company, Inc. There was so much excitement over observing these one-celled animals! The students drew what they saw and made comparisons with each other.

Eventually, every animal group was studied and students brought in samples, did reports, observed and dissected whenever possible. During the year we dissected clams, sponges, worms, grasshoppers, crabs, frogs and chickens. Most were brought in by the students and some were ordered from the biology supply company. Someone found a clump of frog's eggs and we got them to hatch and watched their development closely. This led to the establishment of a terrarium. We already had an aquarium, a rabbit, nine gerbils and four white mice!

In the springtime, Jane's class decided to have a Science Fair. Some groups did experiments involving fish, gerbils and mice. All groups set up controlled experiments in which conditions for both animals were the same except for one factor. The groups devised questions to test a factor. Some included:

1. How does a diet of only water and cereal affect a gerbil?
2. Who moves faster through the maze, the male or the female gerbil?
3. Does living in Charles River water affect a goldfish's reaction to light and his speed in swimming?
4. Which mouse will climb the trellis faster to reach the food?
5. Which gerbil runs the most on the exercise wheel?

Case studies of actual experiments performed by biologists investigating activities of mammals were discussed in relation to the students' own investigations. Groups got together informally in the month prior to the Fair to discuss recordkeeping, testing techniques and discoveries. Not everyone did a project on animals. Some did experiments with detergents, plants and photography.

The entire school was invited to the Fair at which time the "scientific experts" explained their study.

Another interesting unit which ESS has developed is Kids, Cameras, and Communities. Perhaps the most exciting day in teaching was the day we gave everyone in our classes a camera. Some students were very appreciative. One said, "I've never taken a picture in my life. Thank you." This unit was really flexible. We used it in relation to social studies, science and language.

When the class went out into the community to interview how people felt about their work, Jane had the students take pictures of them doing their jobs.

Esther did Photo Essays with her class. Each student selected a theme and took pictures illustrating it. The pictures were developed by the class and put into a booklet. The students wrote about their pictures and shared their books with each other and the various grades. Some of the themes were: Signs of Winter, the History of Our Town, Important People in My Life, My Pets, My Family and Sports I Like.

The unit provided for the developing and printing of the pictures in the classroom. Students often developed a real interest in photography outside of school.

Another unit that Esther did was having kids experiment with various liquids. She wanted them to think about such concepts as density, viscosity and heaping. To do this she made up individual question cards for experimentation. She used simple materials from the ESS Kit of Kitchen Physica—eyedroppers, small cups, water bottles of oil, alcohol, detergent and cards.

SAMPLE CARD:

Materials Needed: Eyedropper, oil, water, alcohol, three small cups
Questions: Do the drops of different liquids differ in size?
Hint: Count how many drops it would take to get to a certain level on a cup.
Do this with all three liquids.
Log or Graph your results.

There were about 15 cards with about 15 different questions. Students were to try two experiments daily and either log or graph their results. (Some of the experiments only took a few minutes.) After approximately two weeks, Esther had a "Hot Chocolate and Cookie" Science discussion about the results of the students' experiments. Students brought their science booklets to the discussion. Esther began by posing one question and asking what kind of results were obtained. It was revealed through discussion that there were many different answers to the same question. They discussed why this happened. Students themselves introduced the idea of human error, i.e., some people counted two drops as one, some drops were smaller or bigger than others and some people counted haphazardly. Thus, they learned an important lesson in experimenter error in addition to the information they learned from the experiments.

A research project which stemmed from the kids' interest in animals was "Dog Day." Each chose his favorite breed and anyone who had dog books brought them in to share with the class. Esther also brought in a variety of dog books. The research continued for two weeks during which time students gathered information on dog care, origin of breed, temperament, etc. Then came "Dog Day" when the kids brought their dogs to school on leashes. Class was held in the school yard. Each individual showed his dog and told about him and answered questions. Some kids borrowed neighbor's dogs on which they had done research. Arrangements were made beforehand for the dogs to be picked up immediately after the discussion. Some of the dogs present were Amy, a toy poodle; Buster, a German shepherd; Blackie, a Labrador retriever; Bruneau, a Newfoundland; Chang Chang Yetty, a Lhasa Apso; Coco, the mutt; and Spanky, the mongrel. (You can imagine what this morning was like!) However, the kids never forgot this experience. It was always mentioned as one of the highlights of the year.

We did many other units similar in style to those above on either our own interests or the kids' interests. Other topics included:

1. Spices and Herbs – Culminating activity, the preparation of food
2. Space Travel
3. Ecology

We tried to combine kids' interests, teacher's expertise, researching, experimenting, reporting and meaningful culminating activities in all the units we made up.

LIST OF KITS

ESS, Bridge Street, Watertown, Massachusetts

Batteries and Bulbs, intermediate
Bones, intermediate
Growing Seeds, primary or intermediate
Clay Boats, primary
Balancing, primary
Kitchen Physics, intermediate
Pendulums, intermediate
Brine Shrimp, primary or intermediate
Meal Worms, primary
Kids, Cameras and Communities, intermediate

VIII. SOCIAL STUDIES

Our particular school system had a rationale for social studies which was humanistic and man-centered. The student studied man so that he could deal with issues that confronted him by asking significant, valid, important questions. These questions had to be important to both the student and the teacher because they are embarked upon a mutual course of study.

This program involved the use of many disciplines such as history, geography, sociology, anthropology, psychology, archeology, and economics. Content or information was essential, but not as an end in itself! What the student learned was based on the individual learning characteristics and the pedagogic style of the teacher. The student was not the passive receiver of information, but rather the active participant in the process of learning.

Sounds nice??? But what do you do when you have 24, 1956 Editions of a social studies book at the sixth grade level. These books told you that Vietnam's only problem was the lack of machinery and modern ways of living!! Faced with this problem, Jane tried a number of things. Discussions were held and the class talked about things they would like to study. Many were interested in finding out about early man. Some wanted to talk about the current issues—war, pollution, jails, civil rights, crime, taxes, and their town. Because of the wide variety of interests, and the three combination fifth and sixth grades, the intermediate teachers got together. They decided to offer eight to ten week mini-courses for electives. Students could elect a course of their own interest and teachers had the opportunity to teach and develop interesting topics. Teachers brought in their own materials, ordered materials on preview, borrowed from other schools and generally focused on teaching a course they had knowledge of and in which students had indicated an interest. We found that by varying the topics, the teachers, and the approach in social studies, we kept students constantly excited about what they were doing.

One of Jane's most successful units was the Travel Unit. This unit was designed by the students themselves. They decided where of all the places in the world they would most like to visit. After deciding where, they had to plan an itinerary for one month. After doing research, each group made a presentation to the rest of the class in order to "sell" their trip. The class had rating sheets to fill out on each group.

It was a real experience for kids. Jane assisted by bringing in books on various countries, slides from the places she had visited, travel brochures, and pictures. She provided blank filmstrip and slides so a group could make their own films and slides. The students called the airlines for prices, visited travel agencies, brought in pictures and products, wrote brochures, made posters and tapes, did reports and interviewed people who had visited the various places.

The group that received the highest rating had chosen Japan and Hawaii. They began the presentation by entering the class in kimonos and playing a tape featuring the glockenspiel. They greeted the class in Japanese and showed a film they made by drawing on film strip the

important places in each city they were visiting. They gave a short explanation with the strip. Slides on Japanese writing were shown which explained some of the Japanese symbols. Many objects such as chopsticks, Buddha, clogs, etc. were used to entice the class into asking questions. They stopped in Hawaii on the way home. They showed slides of the bombing of Pearl Harbor (which I had obtained when I went to Hawaii), during which one student gave a detailed, in-depth account of that day. They visited some of the islands via homemade slides and had a sample of black sand from a beach on Maui. Also, they related important information needed to make the trip a success such as where and what you needed to do to get a passport, the temperature during the visit so you could bring appropriate clothing, the money system, how certain hotels, restaurants and tours were rated and how one changed money into travelers' checks. All in all, at the end of this group's presentation, the class felt they had been in Japan and Hawaii.

One year when Jane was piloting *Man, A Course of Study*, she used this program as a core-curriculum. This year-long course by EDC is a comparative study of the life cycles of three animal groups and an in-depth study of a primitive society, the Netsilik Eskimo. Students used their own backgrounds and experiences as a basis from which to compare and contrast themselves to the animal groups and the Netsilik Eskimo.

Students wrote creative stories based on the issues explored in the units. Spelling became the vocabulary from the units. Science evolved as research into other animal groups that had similar behavioral patterns. Students began to read about other cultures and discussed the similarities and/or differences to their own culture. Actual case studies of other cultures were reviewed. Issues such as genocide, the treatment of old people, the cultural differences in upbringing, the attitudes of today's generation and our parents' generation on war, prejudice, government, etc. were explored. Current events became a platform for discussing our feelings on what was happening everywhere.

The entire year was spent dealing with the significant questions that concern man everywhere: Who am I? What makes me human? Why do I act as I do in a group? How does the environment affect my behavior? What are the same concerns I have that men everywhere have? How do men everywhere solve their universal problems?

Esther's class particularly enjoyed two projects. One was, "Be a President." The class expressed a desire to know more about the presidents' lives and the type of men they were. Each student chose a president they wanted to study. There was some overlap in choices, but a variety of presidents were chosen. The choices were to remain a secret and each student researched his choice. A group of students also got together and traced pictures of all the presidents and made a time-line of them around the room. After a couple of weeks' research, each student dressed up as his president (as he thought he looked) and conducted a discussion with the students who were to guess who he was. The students could ask questions about the man's life and his term in office. The "President" also gave clues by talking about some of his famous accomplishments, education, years in office, Vice President, etc. These discussions became the focus of our attention for a week. We had not only studied about the presidents, we met them! They had come alive for us.

Another interesting project was the time capsule. The students could either go back or forward in time. Their task was to represent a particular time period by artifacts. They had a shoebox to be filled with objects that would try to tell someone unfamiliar with the culture what it was like. It was as if we were all archeologists reconstructing a culture by the articles

we found. One group that was reconstructing current American culture filled a metal box with a Coke bottle, a STOP THE WAR button, a computer card, a hockey puck (the Bruins had just won the Stanley Cup), an Apollo stamp and a newspaper. They buried the box in the school yard and hoped that someday in the future it would help people to learn something about our culture.

Esther used encyclopedia cards to help students learn how to look up information in the encyclopedia. These were cards she made up from topics she had selected from the encyclopedia. They were topics in which students had expressed an interest or that Esther thought they would enjoy. The card contained questions that required reading information on the topic. The students wrote their answers in a notebook. Eventually, students thought up their own topics and made cards for other people.

For example: *Encyclopedia Card on Ice Cream*

1. *When and where was the first ice cream made, and by whom?*
2. *Briefly, explain the process of making ice cream.*
3. *What temperature is necessary for ice cream to freeze?*
4. *Do you think ice cream is nutritious?*
5. *What is your favorite flavor?*

These cards were put in a box and assigned on a schedule and were available for students to use throughout the year.

We tried to expose the students to current issues and make them aware of the world around them. We also tried to develop research skills and map skills in our students. Projects were also used as a means to get students to work together and learn to plan their time effectively (for term projects).

IX. ACTIVITY PERIOD

After several months of working with a schedule, Esther found that the class had gotten very much tied to them and would be disturbed by any interruption of their work. This included music and art specialists, assemblies, and any time she or anyone had something to share with them. They seemed to have no time for these "extras." They did their projects, choices and other daily work, but would not go far beyond this since they had found a routine in which to get most of their work done. Although assignments were often being changed, Esther sensed that something was missing. It may have been that she was becoming bored with the routine or that the class was ready for another phase to be added to the program.

Small Group Activities

After much thought, she decided to set aside a long period of time during the day to work on special activities. These activities included weaving, instrument making (from wood and fishline), papermaking, photography, macrame, paper marbleizing, theatre games, cooking, music experimentation, crafts and games. Esther chose three or four different activities each week and posted them on oaktag. The students were asked to sign up for an activity each day. A good time to set aside was 11:30 - 12:30 as it was right before lunch and after recess. Some activities were limited in number and some continued for a few weeks so that all the students would be able to participate in the activities they wanted. Once the students signed up, Esther had to get each group started on an activity. She was fortunate to have two student teachers, but when she was alone she chose only one activity that required her constant attention or direction and another two that were more self-directing. Usually a student could run an activity after the first day. The first week's schedule looked like this.

		Monday	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
A.	*Making Music (Limit 6)*	*1.*	*1.*	*1.*	*1.*	*1.*
		2.	*2.*	*2.*	*2.*	*2.*
		3.	*3.*	*3.*	*3.*	*3.*
		4.	*4.*	*4.*	*4.*	*4.*
		5.	*5.*	*5.*	*5.*	*5.*
		6.	*6.*	*6.*	*6.*	*6.*
B.	*Spaghetti and Toothpick Structures (No limit)*					

C.	*Theatre Games (Limit 10)*	*1.*	*1.*	*1.*	*1.*	*1.*
		2.	*2.*	*2.*	*2.*	*2.*
		3.	*3.*	*3.*	*3.*	*3.*
		4.	*4.*	*4.*	*4.*	*4.*
		5.	*5.*	*5.*	*5.*	*5.*
		6.	*6.*	*6.*	*6.*	*6.*
		7.	*7.*	*7.*	*7.*	*7.*
		8.	*8.*	*8.*	*8.*	*8.*
		9.	*9.*	*9.*	*9.*	*9.*
		10.	*10.*	*10.*	*10.*	*10.*

Some students signed up for their preferences for the whole week; others signed up daily. Only theatre games needed Esther's presence so she explained how to make spaghetti and toothpick structures using miniature marshmallows and colored toothpicks or spaghetti. She sent that group off to a corner to work. Esther had borrowed the school instruments (bells, triangles, xylophone, cymbals, etc.) for the music group, and they met in another corner. She instructed them to experiment with the instruments for a while and then to make some music; that is, make up a tune they liked. She took the theatre games group to an adjacent room where they could act in private.

Theatre games involved skits, improvisations, imagination, loosening up exercises, and games. Esther recalls that in the first meeting she wanted the kids to loosen up so we started by having an imaginary tug-of-war. We were really able to almost feel the various actions and subsequent reactions. We then got in a circle and threw an imaginary ball around for a while. It was very hard for kids to free up like this and many found it difficult to pretend anything. (Everyone needs to pretend sometime; we can help our kids, too.) These activities also helped students be more imaginative and creative, if only because they are not afraid to pretend any more and think they look silly. Some other games the class played were *Join the Action* and *Black Magic*.

Join the Action begins by someone acting out an action. There is no talking and the spectators raise their hands when they discover what the person is doing. They are given the o.k. to join the action when the person points to them. Each person adds his interpretation in a way he feels it fits in, and in no time there is a group of kids working together acting out a total action without one sound having been uttered. Usually I call an end to it and we discuss the skit and the different actions in it. The students have taken part in great bands, parades, classrooms, playgrounds, and have been expert acrobats, furniture movers, and rock music stars.

Black Magic is a game in which a person is sent out of the room and the group chooses an object that person has to guess. Then a person is chosen to ask the guesser questions on which object it is. The trick is that the person asking the questions always names the chosen object after he has named something black. For instance, let's say the object was the window. Joey has to guess what it is and Marge is asking him. She says, "Is it the pencil?" "Is it the floor?" "Is it the blackboard?" "Is it the window?" If Joey knows how to play, he says no each time until he hears *black* in blackboard and this is the clue that the next object is the one. He, of course, pretends to be telepathic and does a whole act before he says, "Yes, it's the window." This game is fun to play when some kids know the trick and others don't. They like to play until someone new figures it out. I started by telling two people how to play and then continued playing until others discovered the object of the game.

There were many other games to play that were aimed at freeing up the students and expanding their imagination. Viola Spolin's book has some good ideas for movement and acting. Esther's class really enjoyed the activities and later got into skits and improvisations. One of her most active participants in theatre games was later on the TV show "Zoom." Perhaps she'll have other budding actors some day.

SUGGESTED BOOKS FOR TEACHERS

Creative Dramatics by Gabriel Barnfields

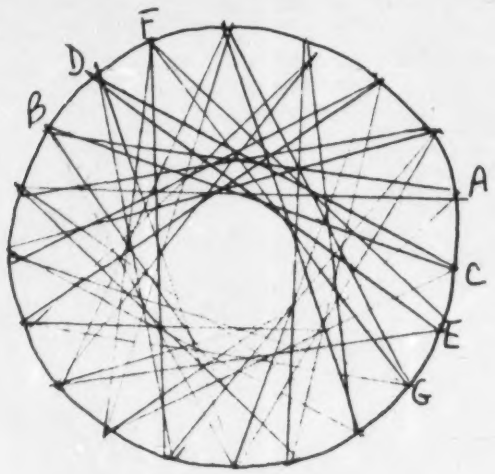
Development Through Drama by Brian Way

Improvisations for the Theatre by Viola Spolin

Well, that was the first activity period and it worked out very well. The class later began to relax and plan for things to do and share during this time. It became a time for many individual projects and sparked interest for independent projects during class. Esther felt that the program was now well-rounded and that new things could be experimented with during this time. Jane also began using an activity period and found the same fulfilling feeling in her class. The activity period also became a time for students to bring in things they wanted to do or learn. Many of the activities that follow were suggestions from the students or based on their interests.

Crafts and Projects

Other activity period projects that went over well were weaving, photo essays, papermaking and cooking. Our weaving was done on heavy rings sliced from cardboard tubes. We banged nails into the rings and wove across with yarn making beautiful designs. This can also be done on flat cardboard or wood into which a circle of nails has been banged. Here is a sample of one of our designs.



The letters tell where the yarn was started and to where it was stretched. The curve was made using all straight lines and the kids found it easy and fun to do. They recreated the pattern with another color starting further to the left of "A" so as to make a larger circle. This way the first color would be visible underneath. The class also learned some geometry, and made many other beautiful designs. They soon began to enjoy their own activity period more than art class. Some of the students also taught the second grade class how to make some of these designs. The second graders ended up decorating their bulletin boards with these fantastic multicolored creations that were the talk of the school. Other than feeling a bit jealous, the class felt proud to have started something new in the school.

The materials needed for paper marbleizing are different colored paint (regular house paint), water and a pan (baking pan). Drop a small amount of different colors of paint into a pan of water. Swirl the colors around to make a pleasing pattern. Lay a piece of construction paper over the paint design. Pick up the paper and voila!—marbleized paper which can be used to make nice cards, stationery, etc.

Photography was very exciting for the kids. The science corner was filled with photographic equipment. We used the "Kids, Cameras, and Communities" kit put out by ESS. All the solutions were mixed, labeled and set on a table. The steps of the developing process were written clearly along the table. The kids took pictures of their neighborhood, nature, animals, etc. with cameras from the kit. After having watched the developing process and carefully gone over the steps, they could develop the pictures they had taken. Usually someone became an expert and helped the others develop their film.

Later the class made photo essays around a certain theme from the pictures they had taken. They made their own books in which to put the pictures. Some made great stories using only the pictures while others made captions to go along with their photographs.

Unfortunately, the pictures did not always come out. The lighting could have been poor or the student could have unknowingly exposed his film. Only after going through the whole developing process did students find this out, and it was pretty discouraging if it happened often. Some students had no desire to continue and some tried again because they knew why it had happened. Some students went beyond the introductory phase and used a better camera to get better pictures. Esther had a student who set up the developing process at home because he became very interested in photography.

Another enjoyable and interesting activity was to have guest lecturers. Esther's brother Mark came to tell the class how to prepare a slide with a specimen for observation under the microscope. The class was excited to have an expert come in especially to show them how to do something. They had been working with slides themselves and enjoyed the samples Mark brought in to show them. This also became a special event to them. Esther's husband visited Jane's class to teach a group of students how to use a slide rule.

Recipes

In cooking we made our own ice cream, pizza, cookies and bread. This activity was limited and was repeated so that everyone had a chance to cook something. One week we had pizza on Tuesday and ice cream on Thursday. A student could not sign up twice in that week.

It was repeated until everyone had a chance to make pizza or ice cream or both. We asked the kids to bring in the ingredients so that the expense would not become too great for one person. Some of these could be mixed in a corner of the room and then brought to the kitchen to cook, or a student teacher or parent could take a group to the kitchen. (Hot plates are fine if there is no kitchen.) Most of our concoctions were very good and Jane even had a Food Sale one day at which all her delicacies were sold.

SOME DELICACIES!

Ice Cream (Fanny Farmer Cookbook)–delicious and simple

2 egg whites
1/2 pint double cream
3 tbsp. confectioners' sugar
flavoring as desired

Whip egg whites until stiff, whip cream very lightly.
Add confectioners' sugar and flavoring to the cream.
Lastly, fold egg whites lightly and thoroughly into the cream.
Pour into refrigerator trays and freeze.

Suggested Flavorings:
1/2 tsp. vanilla extract
few drops peppermint extract
2 tsp. coffee extract
4 tbsp. crushed fruit (strawberries, pineapple, bananas, pears, peaches)
1 tbsp. chocolate powder

White Bread

Place in bowl and mix thoroughly:
2 cups flour
3 tbsp. sugar
2-1/2 tsp. salt
6 tbsp. liquid shortening
1 pkg. active dry yeast

Add 1 cup warm water and 1 cup milk.
Beat 2 minutes with electric beater, add 1 cup flour, and beat 2 additional minutes.
Add additional flour as needed (approximately 3 more cups).
Knead.
Grease bowl and bread, and let rise in bowl 1 hour in warm place.
Punch down and divide into loaves.
Grease pans and bread, and let rise in pan 1 hour.
Bake in 400°F. oven for 40 minutes.

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Pizza

Make own dough or use frozen dough–defrosted of course!

Parsley flakes
Large can of ground peeled tomatoes
Small tsp. garlic salt
Butter
Vegetable oil
Grated cheese mozzarella cheese

Grease cookie sheet, put dough on, salt and pepper dough.
Spread tomatoes over dough and sprinkle with garlic salt and parsley.
Cover with grated cheese and sliced mozzarella strips.
Shake oil over and spread with fork.
Bake at 400° F. for 25 to 30 minutes.

Apple Crisp (Fanny Farmer Cookbook)

Butter a deep baking dish. Put in:
4 cups sliced tart apples (peeled)
1/2 cup water (less for juicy apples)
Mix with a fork:
3/4 cup flour
1 cup white or brown sugar
1 tsp. cinnamon
1/2 cup butter (softened)
1/4 tsp. salt
Spread over the apples. Bake at 350°F. until apples are tender and crust is brown (30 minutes). Serve with cream or ice cream.
Serves 8.

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Class Projects

Here are two projects which involved the whole class working toward a common goal.

THANKSGIVING FEAST

Jane's class, when discussing why we celebrate Thanksgiving, suggested that they have their own feast in commemoration of that day. We decided to find out more about the first Thanksgiving and share it on our Feast Day. We planned to make as many of the things as we could. Everyone contributed to the purchase of the food. One student's father was the manager of a local grocery store and he donated a 20-pound turkey. The class decided on a menu and made a grocery list. Six students and I went shopping with $12.00 and bought cider, ice cream, corn, stuffing ingredients, salad ingredients and dressing, nuts, butter and candles.

Each day for two weeks prior to Thanksgiving, groups of students brought in the ingredients and made things with parent volunteers. They made four loaves of bread, apple sauce, cranberry sauce and four apple pies (all of which were then frozen).

The day before the feast, two students cleaned and stuffed the turkey. I took the turkey home and cooked it at a low temperature overnight. We finished cooking it in school on Wednesday. The room was rearranged by putting the tables together to seat 26 people. They were covered with linen tablecloths and set with plastic products. The father of one of my students was a caterer who generously supplied these things.

On the day of the feast, everyone came dressed as either a Pilgrim or an Indian. The first part of the morning the students shared Thanksgiving stories they had written or researched. At 11:00 a.m., with the help of the principal who carved the turkey and two parents who helped six students to serve, we all sat down to a fantastic meal. It was a rewarding experience to sit and celebrate Thanksgiving with all my students.

CARNIVAL DAY

During a discussion about the December issue of the class newspaper, Jane's class started to talk about having an activity which would involve the entire school. One student mentioned the idea of a carnival. Everyone got very excited and began talking at once.

After checking with the principal, the class decided to have eight booths. Three people would be responsible for creating an idea for each booth. They would make or bring in what was needed—signs, materials and prizes.

After several weeks of planning, these were the booths:

1. *Ring Toss.* One student brought in five decanter liquor bottles, each filled with different colored water made with food coloring. This group make hoops and devised a ring toss game.
2. *Bean Bag Throw.* This group used a circle cutter to cut out different sized circles from a large piece of tri-wall. The different sizes were worth various points. They also made the bean bags.
3. *Gigantic Tic-Tac-Toe.* Also using circles cut from tri-wall, this group used the square tiles on the floor for Tic-Tac-Toe. Four tri-wall circles were marked with an "X", and four with an "O." Students who tried the game had to stand behind a line and slide the circles onto the board about five feet away. They got four tries to get three in a row.
4. *Photography Booth.* One group used the cameras and film from the Kids, Cameras and Communities Unit and gook pictures of kids. These were later developed and printed in the classroom and given out.
5. *White Elephant Table.* Students collected articles for this from teachers, parents and other kids. It was very popular with the lower grades. These kids did their "Christmas Shopping" here.
6. *Crafts Table.* Once a week the class did a craft activity and donated their work. Some of the things they made were "God's Eyes," batik prints, candles, block print greeting cards, weavings, macrame, toothpick trees, and ornaments.* These things sold right away.
7. *Baking Table.* Everyone in the class made something to sell—cookies, brownies, cakes. This group cut up the cakes and sold the pieces. They also sold popcorn, potato chips, and fudge.
8. *Penny Pitch.* One parent donated a steel tub which this group filled with water and in which they floated plastic dessert cups. Kids stood at a distance and pitched pennies. The prize for all the games was penny candy.

** See chapter on activity period for directions.*

We asked all the students, teachers and specialists in the school to trace their hands on green construction paper. They then cut out these outlines, initialed them and sent them to our room. We made a floor-to-ceiling Christmas tree in the auditorium with the 700-plus hands we received. The saying above the tree was, "The Phillips School Wishes the World a Merry Christmas."

On Carnival Day, everyone came early and set up their booths in the auditorium. Classes came down all day long and participated in the activities. It was a great day for everyone, including the *Boston Globe* Santa who received the proceeds from this day—about $40.

X. TYPICAL DAY

"To live through a revolution is a delirious experience."
Seale and McConville

Now that we've shown you some of the how's and why's, we would like to describe one of these typical days in our own classrooms.

The first thing was to organize the day into large blocks of time. In the morning we had a 2-1/2 hour uninterrupted period in which students worked on schedules and we gave individual and small group lessons. This was followed by a short recess and lunch. Afternoons were for social studies and activity period.

Usually a few kids come in before school—some to feed the animals, others to get started on their daily schedule. It is not uncommon to see kids start their work without our presence, because much of it is self-directed. After the morning bell, the rest of the class comes pouring in. Quickly they hang up their coats and some start talking to friends, others wander over to us to show what they have brought in. We call the students together for a morning meeting. We remind them the logs on their plants are due today and that there will be a film on the Process of Photosynthesis at 10:30. Those interested can sign up for it. We also inform the class that a lesson on quotation marks is to be given at 9:30 and everyone is to attend. Anyone who wants a reading conference can have it between now and 9:15. We found it important to inform the class ahead of time about lessons and activities so that the students could better plan their time and not feel interrupted when doing their work. Any questions that the students have are answered and any other announcements are made. For example, some students ask for extra time for projects and ask if anyone can listen to him read his lines for the class play. We also talk about a playbill Maria brought in and some local news on fires.

When the meeting breaks up, everyone scatters and begins their schedule. Some students have trouble getting started and we usually get them going on a particular topic right away. On an average morning, about three students proceed to the reading corner to read in privacy; four other students take out their math schedule and work on their assignment for the day; and four sign out for the library for a 20-minute block of time to work on the Eskimo research project. Two kids are in the science corner updating their plant logs and two others are selecting a topic from the public speaking cards for a spontaneous talk. During this time, we are trying to determine who is absent and obtain a lunch count.

We are soon involved in reading conferences and in helping individual students with their work. This activity continues for approximately two hours during which time we also give lessons on specific topics to various groups (helping four students with addition of fractions and later some others with two-number division). The class lesson on quotation marks is

given at the appropriate time. The group that signed up for the film sets up in a corner of the room to watch it. Just before recess we have a meeting so the students can share what they've done this morning and plan for the rest of the day. After the meeting they clean up and go out for recess. After recess, the students who have completed their work, bring their schedules to us to be checked. Others continue with their work until lunch. After lunch the students participate in the activities they signed up for that day. Some are working on a play they are writing, some are working on a class newspaper, and some are using this time for extra help. Others are involved in macrame and weaving. This activity continues for about an hour. The students then clean up, check over their schedules, and decide what to take home. (Any unfinished work is taken home.) During this time we check those students' schedules who weren't checked previously. When the bell rings, the students leave at their leisure. Others ask for help on math and/or projects. Some stay because we asked for volunteers to set up a terrarium or just to talk with us or friends. And the day is not nearly over.

> *"The common teacher is not common at all. He is bulging with talent, with energy, and with understanding. What we human teachers have to give, ultimately, is ourselves—our own love for life, and for our subject, and our ability to respond to the personal concerns of our students."*
>
> Terry Borton
> *Reach, Touch, and Teach*

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